Upper Columbia United Tribes
Complete F&W Proposal Package

1. Subbasin plans: "Upper Columbia Ecoregion"
   InterMountain Province, Kootenai and Okanogan Subbasins
   (see NWPCC's web site)

2. Detailed measures for InterMountain Province
   (see 5/27/04 cover letter to NWPCC and measures, submitted as formal recommendations for F&W Program Amendment)
   Adopted 12/15/04

3. Estimated costs to implement measures in Upper Columbia Ecoregion
   (see 8/11/04 cover letter to NWPCC and summary spreadsheet, submitted as formal comments on F&W Program Amendment; see also detailed spreadsheet of funding estimates sorted into MOAII categories)

4. Draft Regional Allocation Proposal for BPA F&W PM&E Funding

5. Illustration of "Roll-up": specific outcomes, with associated cost estimates, over 10 years

UPPER COLUMBIA UNITED TRIBES

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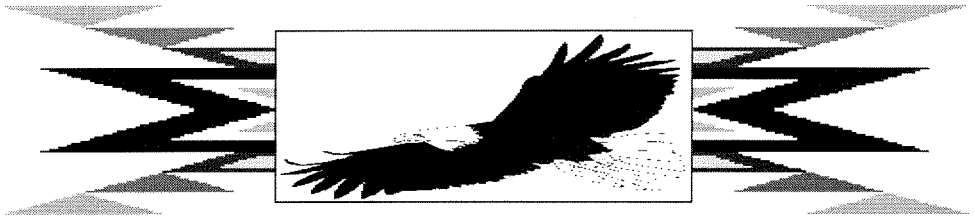

Colville * Coeur d'Alene * Kalispel * Kootenai * Spokane

May 27, 2004

Judi Danielson, Chair
Northwest Power and Conservation Council
851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348

RE: Recommended Measures for the Intermountain Province Plan

Dear Ms. Danielson:

Please accept these recommendations from the Upper Columbia United Tribes (UCUT) as components of subbasin plans for the Intermountain Province (IMP). Our support for the six IMP subbasin plans (Coeur d'Alene, Upper Columbia, Lake Rufus Woods, Pend Oreille, San Poil, and Spokane) is contingent upon the NPCC's adoption of the measures submitted with this letter.

This letter and attachments are intended to provide the Northwest Power and Conservation Council (NPCC) with the UCUT member Tribes' measures as required under sections 839b(h)(2) and 839b(h)(2)(A) of the Northwest Power Planning and Conservation Act (Act). In considering the enclosed measures for amendment into the Program, the NPCC should consider four important principles:

1) Consistency with the Northwest Power Act;
2) Consistency with past Program precedent and definition of measures;
3) Consistency with the deference required by the NPCC under applicable law to the recommendations of the Fish and Wildlife Managers and Tribes; and
4) Consistency with the legal rights of Indian Tribes and the federal government's unique trust relationship with the Tribes.

UCUT's member Tribes have participated in and support the full adoption of the IMP Plan as submitted to the NPCC for amendment into its Fish and Wildlife Program, with the enclosed measures as essential components of that plan. These measures: are supported by and consistent with the subbasin plans; have been developed in coordination with other fish and wildlife managers; and, are not in conflict with other fish and wildlife managers' efforts or strategies within the subbasin plans.

While UCUT supported the NPCC's retention of measures from previous Fish and Wildlife Programs pending the adoption of subbasin plans, we understand those previous measures sunset with the amendment of subbasin plans into the Program. Therefore, measures for the IMP Plan are intended to continue and supplement past program measures. Timely implementation of these measures will avoid pushing more species onto the endangered list and losing ground in recovery and mitigation for federal hydropower impacts.

Since subbasin planning incorporates goals broader than the Program's focused intent on addressing federal hydropower impacts, we are submitting measures for adoption as part of the IMP Plan. These measures specifically address BPA's obligations and responsibilities for fish and wildlife mitigation in the IMP, and full implementation is necessary to remain consistent with the Act and the NPCC Fish and Wildlife Program. It is UCUT's recommendation that the Council adopt these measures as submitted.

If the NPCC chooses not to accept these recommendations, section 839b(h)(7) of the Act requires the NPCC to fully explain, in writing, why it acted in opposition to the recommendations of the Tribes. We look forward to working with the NPCC members and staff, the Independent Scientific Review Panel and the Bonneville Power Administration to ensure the measures are understood and incorporated in the Fish and Wildlife Program. Please do not hesitate to contact UCUT Central Office or member Tribes to further discuss issues related to the IMP subbasin plan and our collective measures as submitted.

Thank you for your attention to this important matter.

Sincerely,

Warren Seyler,
Chairman, UCUT

Enclosures

cc: Jim Kempton
Melinda Eden
Gene Derfler
Ed Bartlett
John Hines
Frank "Larry" Cassidy
Tom Karier
UCUT Member Tribes

UCUT 2004 Fish and Wildlife Program Measures for Inclusion in the Intermountain Province Plan

Bonneville Power Administration

1. Fund as a priority the measures described below to partially mitigate for salmon, steelhead and wildlife habitat losses incurred as a result of the construction and operation of Chief Joseph, Grand Coulee and Albeni Falls dams.

2. Develop a long-term funding agreement (or agreements) with the UCUT member tribes to implement specific measures at a reasonable pace. Such long-term funding agreement(s) - complete with fish and wildlife restoration metrics, limiting factors, and monitoring - will be refined once the subbasin plans and measures are approved.

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The following measures comprise the UCUT recommendations for the Intermountain Province (IMP) Plan:

Albeni Falls Dam Wildlife Mitigation (Coeur d'Alene, Kalispel, and Kootenai Tribes)

1. To complete mitigation of Albeni Falls Dam construction and inundation losses to wildlife habitat, fund the implementing agency and Tribes (IDFG, KT, CDAT and KTOI), consistent with signed intergovernmental agreements, individual Memorandums of Agreement between each party and the Bonneville Power Administration, and the ***Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan (IDFG 1987)*** [Pend Oreille Subbasin Objectives (strategies) 1A1-8 (a), (b) and (c); Coeur d'Alene Subbasin Objectives (strategies) 1A1-8(a), (b), (c) and (d)].
2. Fund enhancement, operations and maintenance activities for projects crediting the Albeni Falls Dam losses consistent with the ***Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects (CBFWA 1998)*** [Pend Oreille Subbasin Objectives (strategies) 1A9 (a); Coeur d'Alene Subbasin Objectives (strategies) 1A9(a)].
3. Fund an operational loss assessment for Albeni Falls Dam and implement activities to mitigate designated losses [Pend Oreille Subbasin Objectives (strategies) 1B1-3 (a); Coeur d'Alene Subbasin Objectives (strategies) 1B1(a)].

Coeur d'Alene Tribe

Wildlife Mitigation

1. Where Resident Fish Substitution fails to meet obligations incurred due to anadromous and resident fish losses, substitute wildlife habitat acquisitions, wildlife habitat enhancements and wildlife population management activities in lieu of fish population and/or habitat enhancements (Coeur d'Alene Subbasin Aquatic Strategy 2B1.a, b, and c. and Spokane Subbasin Aquatic Strategy 2B1.a, b, and c.).

Coeur d'Alene Subbasin Resident Fish Substitution

The Bonneville Power Administration will fund the Coeur d'Alene Tribe to implement watershed restoration efforts in the Coeur d'Alene subbasin as substitution for anadromous fish losses. These substitution efforts will be directed at recovering tributaries to Coeur d'Alene Lake using a watershed scale approach. This approach is justified since the production of resident salmonids is dependent on the integrity of watershed/ecosystem functions for all life history forms. Specific Measures are described below:

1. Enhance habitat on Alder, Benewah, Evans and Lake Creeks to achieve interim 25 percent, 50 percent, and final 75 percent habitat improvement targets by specified dates (Coeur d'Alene Subbasin Aquatic Objectives and Strategies 2A2.a, b, c, d, e, f, and g).
2. Provide interim harvest opportunities until such time as habitat measures can restore natural westslope cutthroat trout populations to productive self-sustaining levels (Coeur d'Alene Subbasin Aquatic Objectives and Strategies 2C1.a, b, c, 2C2.a, and b).
3. Purchase management rights to priority habitats within Alder, Benewah, Evans, Lake Creek and other watersheds of importance to resident salmonids through title acquisition, conservation easements, and/or long-term leases (Coeur d'Alene Subbasin Aquatic Objectives and Strategies 1B1.e, 2A1a, b, c, d, e, f, 2A2.a, b, c, 2B1.a, b, and c).
4. Use incentive programs for private landowners in focal watersheds to support native ecosystem/watershed function (Coeur d'Alene Subbasin Aquatic Objectives and Strategies 1B1.d, 2A1a, b, c, d, e, f, 2A2.a, b, c, and 2B1.c).
5. Protect and/or restore habitats acquired within the Coeur d'Alene Subbasin to the extent their condition is consistent with the 2000 Fish and Wildlife Program (Coeur d'Alene Subbasin Aquatic Objectives 2A1.a, b, c, d, e, f, 2A2.a, b, c, d, e, f, and 2B1.b)
6. Conduct research and monitoring to determine project effectiveness, identify critical uncertainties that currently constrain preservation and restoration planning, and refine objectives and/or targets as necessary

(Coeur d'Alene Subbasin Aquatic Objectives and Strategies 1A2.a, b, c, 1B1.a, b, c, 2A2.a, b, h, 2B1.a, b, c, 2C1.a, b, c).

7. The Tribe will conduct an educational/outreach program for private landowners, students and the general public within the Coeur d'Alene Reservation to facilitate a "holistic" watershed protection process.

Spokane Subbasin Resident Fish Substitution

Fund the Coeur d'Alene Tribe to implement watershed restoration efforts in the Hangman Watershed as substitution for anadromous fish losses. These substitution efforts will be directed at recovering the Hangman Watershed as a whole and not simply the restoration or enhancement of a single species since the production of resident salmonids depends heavily on the integrity of watershed/ecosystem functions. Watershed restoration efforts will involve the recovery of hydrologic functions disrupted by current land management practices, expansion of resident salmonid populations and restoration of wildlife habitats.

A priority of restoration of Hangman Creek is to connect isolated salmonid populations currently found in forested tributaries, and to provide for interim harvest opportunities until restoration is complete. In order to be successful, efforts must be directed at accomplishing the following.

Specific Measures are described below:

1. Assess the DNA composition of salmonid populations within the Hangman Watershed (Aquatic Strategy 2A1.a).
2. Determine distribution and abundance of resident salmonids in the Hangman Watershed (Aquatic Strategies 2A1.a,b, c, 2A2. a.).
3. Use species management (for example reduce competitors and set take limits) to increase distribution and abundance of desired resident salmonids in the Hangman Watershed (Aquatic Strategies 2A2. c, d, e, f, 2A3. f, and g.).
4. Address the habitat limiting factors for resident salmonids to increase the distribution and abundance of desired resident salmonids in the Hangman Watershed (Aquatic Strategies 2A3 a, b, c, d, e, h, 2B1 a, b, and c).
5. Purchase management rights to priority habitats in the Hangman Watershed through title acquisition, conservation easements, and/or long-term leases (Strategy 2A3 a, b, c, d, e, h 2B1.a).
6. Use incentive programs for private landowners in the Hangman Watershed to support native ecosystem/watershed function (Strategy 2A3 a, b, c, d, e, h, and 2B1.b).
7. Protect and/or restore habitats acquired within the Hangman Watershed to the extent their condition is consistent with the 2000 Fish and Wildlife Program (Strategy 2A3 a, b, c, d, e, h and 2B1.c).
8. Build "put and take" ponds and stock with rainbow trout to fulfill short-term needs for subsistence and recreational fishing opportunities (Strategy 2C1 a and b).

9. Conduct a Research, Monitoring, and Evaluation Program to assess restoration efforts.
10. Conduct research and monitoring to determine project effectiveness, identify critical uncertainties that currently constrain preservation and restoration planning, and refine objectives and/or targets as necessary (Spokane River Subbasin Aquatic Strategies 2A1-4.b, c, 2A2.a, and 2A3.a,).

Colville Confederated Tribes

Terrestrial Measures

1. As partial mitigation for the construction and inundation of Grand Coulee and Chief Joseph acquire enough land to mitigate wildlife habitat losses form the construction and inundation of Grand Coulee and Chief Joseph hydropower projects within the next 5 years on the Colville Reservation.
    - Upper Columbia:
        - Obj. 1A1-1A9 a,b;
    - San Poil:
        - Obj. 1A1-1A9 a,b,c,d;
    - Lake Rufus Woods:
        - Obj. 1A1-1A10 a,e,f;

2. Develop a detailed site-specific management plan to address habitat protection, restoration, and enhancement with monitoring measures for all habitat acquisitions in the current Tribal mitigation program for the life of those projects (boundary fencing projects, HEP and noxious weed surveys, etc,).
    - Upper Columbia:
        - Obj. 1A1-1A9 a,b,c;
    - San Poil:
        - Obj. 1A1-1A9 a,b,c,d;
    - Lake Rufus Woods:
        - Obj. 1A1-1A10 a,b,c,d,e,f;

3. Conduct a feasibility study to determine if sage grouse can be reintroduced and maintain a viable meta-population on the Colville Reservation.
    - Upper Columbia:
        - Obj. 1A7 a,b,c; 1B1 a; 1B2 a; 2B1 a,b,c,d,e,f,h,i
    - San Poil:
        - Obj. 1A7 a,b,c,d; 1B1 a; 1B2; 2A3 a,b,c,d; 2A4 a,b,c; 2B2 a,b,c,d,e,f;
    - Lake Rufus Woods:
        - Obj. 1A2 a,b,c,d,e,f; 1B1 a,b; 1B2; 2A3 a,b,c,d,e,f; 2A4 a,b; 2B a,b; 2B1 a;

4. Continue ongoing sharp-tailed grouse habitat restoration, protection, and augmentation of existing populations to meet objectives identified in the Rufus Woods, San Poil, and Upper Columbia subbasin plans.
    - Upper Columbia:
        - Obj. 1A5 a,b,c; 1A8 a,b,c; 1B1 a; 1B2 a; 2A2 a,b,c; 2B1 a,b,c,d,e,f,h,i
    - San Poil:
        - Obj. 1A5 a,b,c,d; 1A8 a,b,c,d; 1B1 a; 1B2; 2A2 a,b,c,d; 2A4 a,b,c; 2B2 a,b,c,d,e,f
    - Lake Rufus Woods:
        - Obj.1A1 a,b,c,d,e,f: 1B1 a,b; 1B2; 2A2 a,b,c,d,e,f; 2A4 a,b; 2B a,b; 2B1 a;

5. Continue adequate funding for Tribal mitigation maintenance and operation activities for lands enrolled into the mitigation program for the life of the above hydropower projects.
    - Upper Columbia:
        - Obj. 1A1-1A9 a;
    - San Poil:
        - Obj. 1A1-1A9 a;
    - Lake Rufus Woods:
        - Obj. 1A1-1A10 d;

6. Evaluate and provide sufficient long-term quality and quantity habitat for elk, mule and white-tailed deer populations to provide current and future subsistence use to compensate for anadromous fish losses to the Colville Confederated Tribes
    - Upper Columbia:
        - Obj. 1A1-1A9 a,b,c; 1B1 a; 1B2 a,b; 2B1 a,b,c,d,e,f,h,i; 2B2 a,b,c,d,e,f,g;
    - San Poil:
        - Obj. 1A1-1A9 a,b,c,d; 1B1 a; 1B2; 2A4 a,b,c; 2B2 a,b,c,d,e,f; 2B3 a,b,c,d,e,f,g,h,i,j; 2B4 a,b,c,d,e,f; 2B5 a,b,c,d,e,f,g,h
    - Lake Rufus Woods:
        - Obj. 1A1-1A10 a,b,c,d,e,f; 1B1 a,b; 1B2; 2A4 a,b; 2B a,b; 2B1 a; 2B2 a,b,c,d,e,f,g,h

7. Assess, enhance and protect non-game species and specialized habitats affected by the construction and inundation of the federal hydropower projects (neo-tropical and resident song birds, small mammals, amphibian, and reptile species etc.).
    - Upper Columbia:
        - Obj. 1A1-1A9 a,b,c; 1B1 a; 1B2 a,b; 2A1 a,b,c; 2A2 a,b,c; 2A3 a,b,c; 2A4 a,b; 2B1 a,b,c,d,e,f,g,h,i; 2B2 a,b,c,d,e,f,g;
    - San Poil:

- Obj. 1A1-1A9 a,b,c,d; 1B1 a; 1B2; 2A1 a,b,c,d; 2A2 a,b,c,d; 2A3 a,b,c,d; 2A4 a,b,c; 2A5 a,b,c; 2B1 a,b,c; 2B2 a,b,c,d,e,f; 2B3a,b,c,d,e,f,g,h,i,j; 2B4 a,b,c,d,e,f; 2B5 a,b,c,d,e,f,g,h;
- Lake Rufus Woods:
  - Obj. 1A1-1A10 a,b,c,d,e,f; 1B1 a,b; 1B2; 2A1 a; 2A2 a,b,c,d,e,f; 2A3 a,b,c,d,e,f; 2A4 a,b; 2B a,b; 2B1 a; 2B2 a,b,c,d,e,f,g,h

8. In conjunction with Tribal Fisheries, assess, protect, enhance and restore identified riparian and island habitats along tributaries adjacent to and including the Columbia River within the bounds of the Colville Reservation to enhance both fish and wildlife species and habitats.
   - Upper Columbia:
     - Obj. 1A1 a,b,c; 1A2 a,b,c; 1A4 a,b,c; 1A5 a,b,c; 1A6 a,b,c; 1A8 a,b,c; 2A1 a,b,c; 2A2 a,b,c; 2B1 a,b,c,d,e,f,g,h,i;
   - San Poil:
     - Obj. 1A1 a,b,c,d; 1A2 a,b,c,d; 1A4-1A6 a,b,c,d; 1A8 a,b,c,d; 2A1 a,b,c,d; 2A2 a,c; 2B3 a,b,c,d,e,f,g,h,i,j;
   - Lake Rufus Woods:
     - Obj. 1A1 a,b,c,d,e,f; 1A4 a,b,c,d,e,f; 1A7 a,b,c,d,e,f; 2A1 a; 2A2 a,b,c,d,e; 2B a,b; 2B1 a;

9. Conduct a study to reintroduce and maintain a viable population of pronghorn antelope on the Colville Reservation as a traditional/cultural subsistence species to offset impacts to other ungulate populations from anadromous fish losses.
   - Upper Columbia:
     - Obj. 1A2-1A9 a,b,c; 1B1 a, 1B2 a,b; 2B1 a,b,c,d,e,f,g,h,i; 2B2 a,b,c,d,e,f,g
   - San Poil:
     - Obj. 1A2-1A9 a,b,c,d; 1B1 a, 1B2, 2A4 a,b,c; 2B2 a,b,c,d,e,f; 2B3 a,b,c,d,e,f,g,h,i; 2B5 a,b,c,d,e,f,g,h;
   - Lake Rufus Woods:
     - Obj. 1A1-1A2 a,b,c,d,e,f; 1A5-1A8 a,b,c,d,e,f; 1B1 a,b; 1B2; 2A2 a,b,c,d,e; 2A3 a,b,c,d,f; 2A4 a,b; 2B a,b; 2B1 a; 2B2 a,b,c,d,e,f,g,h;

10. Conduct long-term wildlife monitoring program to assess effectiveness of protection, restoration, and enhancement activities for species and habitats.
    - Upper Columbia:
      - Obj. 1A1-1A9 c; 2A1 c,
    - San Poil:
      - Obj. 1A1-1A9 d; 2A1 d; 2A2 c; 2A3 d; 2A4 c; 2A5 b; 2B2 d; 2B3 h; 2B4 f;
    - Lake Rufus Woods:
      - Obj. 1A1-1A10 c; 2A1 a; 2A2 c; 2A3 b; 2A4 b; 2B2

Aquatic measures

11. Operate, maintain, monitor, and evaluate the production of a minimum of 50,000 pounds of trout annually at the Colville Tribal Trout Hatchery that are stocked in waters on or surrounding the Colville Reservation. (This measure is consistent with Provincial Level Objective 2C1 and all associated strategies in the San Poil, Rufus Woods and Upper Columbia subbasins)

12. Monitor and research methods to manage fish entrainment at federal hydropower and irrigation projects in cooperation with the Army Corp of Engineers and Bureau of Reclamation. (This measure is consistent with Rufus Woods subbasin Objectives 2D2, 1B2, 1B1, 1A1 and respective strategies I, a and d, e and l, e. and Upper Columbia subbasin objective 1A1 strategies b, c, & d.)

13. Develop artificial production programs, including monitoring and evaluation, to increase abundance, distribution and diversity of natural-origin kokanee stocks in the San Poil River and Nespelem River systems in conjunction with reintroducing kokanee throughout their native range in tributaries of Lake Roosevelt and Lake Rufus Woods. (This measure is consistent with Provincial Level Objective 2A1 2A2, 2C2 along with the associated strategies in the San Poil, Rufus Woods and Upper Columbia subbasins)

14. Operate and maintain net-pen operations and fish purchase programs to enhance the harvest opportunities in Lake Roosevelt and Lake Rufus Woods. Monitor and evaluate these efforts for cost-effectiveness and biological/ecological performance to optimize harvest benefits. (This measure is consistent with Rufus Woods subbasin objectives 2A3, 2C2, 2D2 and strategies a, b, d along with Upper Columbia subbasin Objective 2C1 strategy b.)

15. Study the genetic distribution of redband trout throughout the intermountain province in coordination with other co-managers. (This measure is consistent with San Poil subbasin objective 2A2, strategy e.)

16. Research the distribution and habitat utilization of benthic fishes in Lake Roosevelt and Lake Rufus Woods. (This measure is consistent with objective1A2, strategies b, c, & d in the Rufus Woods subbasin and objective 2A2, strategy a in the Upper Columbia subbasin.)

17. Construct, implement, monitor, and maintain permanent littoral areas along Lake Roosevelt that are unaffected by reservoir pool elevations and/or develop structures or seeding programs that provide a sustainable surrogate for littoral habitats along exposed shorelines. (This measure is consistent with all strategies listed under objective1A2 for the Upper Columbia subbasin)

18. Enhance and monitor/evaluate the physical habitat, water quality, and biotic communities of lakes and lake tributaries located in the Colville Reservation.

(This measure is consistent with Provincial Level Objective 1B and associated strategies in the San Poil, Rufus Woods and Upper Columbia subbasins)

19. Replace, remove, or enhance man-made barriers to fish migration in the tributaries to San Poil River, Lake Roosevelt, and Lake Rufus Woods including the Mainstem Columbia River. Monitor and evaluate the results of these actions. . (This measure is consistent with Subbasin objective 1B1 in the San Poil and Rufus Woods subbasins and all associated objectives. In the upper Columbia subbasin the measure would be consistent with all strategies under Objective 1B1 and strategy f under objective 1B2)

20. Improve the physical habitat and water quality in the San Poil River and its tributaries and work in coordination with the San Poil Watershed Work Team and private landowners to restore and protect areas identified in the QHA analysis for the focal species in the San Poil Subbasin. Improve the quality of habitat assessment data and collect data in areas where data gaps currently exist. (This measure is consistent with Subbasin objectives 1B1, 1B2, 1B3, 1B4, 1B5,1B6, and 1B7 and associated strategies in the San Poil subbasin)

21. Conduct long-term monitoring of land use impacts and other limiting factors identified in tributaries to the San Poil River, Lake Roosevelt, and Lake Rufus Woods. (This measure would be used to monitor and evaluate activities implemented to meet Provincial level Objective 1B associated subbasin level objectives and strategies in the San Poil, Rufus Woods and Upper Columbia subbasins)

22. Determine minimum in-stream flow requirements for target species in tributaries to Lake Roosevelt and Lake Rufus Woods. (This measure is consistent with objectives 1A1, 1B2, 1B6, 1B7 strategies g, c, e, c in the Rufus Woods subbasin and objectives 1B1, 1B2, 1B3, 1B8, strategies c, j, g, c in the Upper Columbia subbasin.)

23. Conduct a feasibility analysis for anadromous fish reintroductions above Chief Joseph Dam. This study should not be limited to, but include: 1) available habitat, 2) species interactions with existing fish communities, 3) survival studies and habitat utilization for adult and juvenile life histories, 4) analysis of both full and limited passage (trap and haul) passage options both up and down stream that includes passage mortality estimates, and cost estimation for construction or infrastructure needs. (This measure is consistent with Provincial Level Objective 2D1 and associated strategies in the San Poil, Rufus Woods and Upper Columbia subbasins)

24. Implement measures deemed feasible in 23 (above) to reintroduce anadromous fish above Chief Joseph Dam using the best available hatchery stocks. Monitor and evaluate activities and use adaptive management to restore this population to harvestable levels using an open process and collaborative efforts of the co-

managers and other local stakeholders. (This measure is consistent with all strategies listed under objective1A1 for the Rufus Woods subbasin)

25. Improve the physical habitat and water quality in the Rufus Woods subbasin and work in coordination with the Subbasin Work Teams to restore and protect areas identified in the QHA analysis for the focal species. Improve the quality of habitat assessment data and collect data in areas where data gaps currently exist. (This measure is consistent with all objectives and strategies listed under Provincial Objective 1B for the Rufus Woods subbasin)

26. Monitor and evaluate the resident fish communities in Lake Rufus Woods. Determine a baseline for abundance, species and genetic diversity, habitat utilization, food-web dynamics and species interactions that can be used to develop long-term trend data and help to evaluate the success or failure of the combined implemented actions and improve management decisions. (This measure is consistent with objective1A1, strategy a in the Rufus Woods subbasin)

27. Continue to implement white sturgeon recovery measures in Lake Roosevelt as identified in the *Upper Columbia White Sturgeon Recovery Plan.* (This measure is consistent with objective 2C1, strategy c in the Rufus Woods subbasin)

28. Conduct research on the population status, distribution and habitat preference of burbot in Lake Roosevelt and Lake Rufus Woods. (This measure is consistent with objective1A2, strategies b, c, & d in the Rufus Woods subbasin and objective 2A2, strategy a in the Upper Columbia subbasin.)

Kalispel Tribe

1. As partial mitigation for anadromous fish losses, operate and maintain a warm water low-capital bass hatchery on the Kalispel Indian Reservation. Mark all hatchery production. Monitor success of hatchery stocking program [Pend Oreille Subbasin Objectives (strategies) 2C1(a)].

2. As partial mitigation for anadromous fish losses, complete advanced designs, and construct, operate and maintain habitat improvement projects to enhance bull trout and westslope cutthroat trout in all tributaries of the Pend Oreille Subbasin. The Kalispel Tribe will prioritize tributaries for habitat improvements and implementation schedules, and develop detailed biological objectives for each tributary [Pend Oreille Subbasin Objectives (strategies) 2A1(a), 2A3 (a) and (b); 1B1 (a), (c), and (d);1B4 (a) and (b);1C1 (a) and (g); 1C5 (a)].

3. As partial mitigation for anadromous fish losses, collaborate with the U.S. Forest Service, Idaho Department of Fish and Game, and Washington Department of Fish and Wildlife to remove exotic brook trout within tributaries of the Pend

Oreille River Subbasin so as to enhance bull and westslope cutthroat trout [Pend Oreille Subbasin Objectives (strategies) 2A2(a); 1C5(a)].

4. As partial mitigation for anadromous fish losses, construct, place, and monitor the effectiveness of artificial cover structures to increase the amount of bass fry winter cover in the lower Pend Oreille River [Pend Oreille Subbasin Objectives (strategies) 2C1(b)].

5. As partial mitigation for anadromous fish losses, conduct a long-term monitoring program to assess effectiveness of bull and cutthroat trout habitat improvements in tributary streams [Pend Oreille Subbasin Objectives 2A1(a), 2A3(a) and(b); 1C5(a)].

6. As partial mitigation for anadromous fish losses, fund a cooperative project among the Confederated Colville Tribes, Kalispel Tribe, Spokane Tribe, and the Washington Department of Fish and Wildlife to assess stock status of resident fish species and associated habitats in the areas above Chief Joseph and Grand Coulee Dams [Pend Oreille Subbasin Objectives (strategies) 2A1(a), 2A3 (a) and (b); 1B1 (a), (b) and (c); 1B2 (b), (c) and (d); 1B3 (a)].

   Phase I. Assess existing data and develop a database, identify data gaps and develop standardized data collection methodologies.
   Phase II. Conduct field sampling to gather the needed data, assess data and identify management, protection and recovery efforts.
   Phase III. Implement management, protection, recovery, monitoring and evaluation.

7. As partial mitigation for anadromous fish losses, purchase management rights and enhance habitat in critical watershed areas (riparian corridors and associated uplands) along tributaries within the Pend Oreille Subbasin to benefit fish and wildlife resources [Pend Oreille Subbasin Objectives (strategies) 2B1; 1B1 (a); 1B4 (a); 1B8 (a)].

8. As partial mitigation for anadromous fish losses and in collaboration with the U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife, investigate the feasibility of a conservation aquaculture facility for westslope bull and cutthroat trout. Construct, operate and maintain this facility based upon positive findings of feasibility study [Pend Oreille Subbasin Objectives (strategies) 2A1(b); 1B1 (a); 1B4 (a)].

Kootenai Tribe of Idaho

Note: In addition to measures submitted above (Albeni Falls Dam Wildlife Mitigation) for the IMP, the Kootenai Tribe of Idaho developed other measures included in subbasin plans developed by or with the participation of the Kootenai Tribe of Idaho.

Spokane Tribe of Indians

Aquatic measures

1. As partial mitigation for anadromous fish losses, fund a cooperative project among the Spokane Tribe of Indians, Confederated Colville Tribes and the Washington Department of Fish and Wildlife to monitor and evaluate the Lake Roosevelt biota to assess the effectiveness and impacts of artificial production measures, effects of exotic introductions, and determine impacts of reservoir operations on native species and on achieving biological objectives outlined for Lake Roosevelt (Table 2). (Upper Columbia Subbasin Objectives (strategies) 1A2 (c), 1A3 (e), 1A4 (a), 1A5 (d), 1B2 (k), 1B4 (b), 2A1 (c, d), 2A2 (a, b, c M&E, e), 2B, 2C1 (a, b, f), Research, monitoring and evaluation plan. Spokane Subbasin Objectives 1B2 (j), 2C2 (c)).
    - Conduct a year-round reservoir-wide creel survey to assess the efficacy of the artificial production program. (Upper Columbia Subbasin Objectives (strategies) 2A1 (a), 2A2 (b, c), 2C1 (e). Spokane Subbasin Objectives 1A1 (a, b), 2A1 (b, c), 2A2 (a), 2C1 (a, b) Research, monitoring and evaluation plan)).
    - Conduct relative-abundance surveys by electrofishing, hook and line, gill netting, trawling or other appropriate sampling methodologies to collect fisheries population, life history and diet information. (Upper Columbia Subbasin Objectives (strategies) 1B2 (c, d), 2A1 (a, c), 2A2 (a, b, c), 2C1 (e). Spokane Subbasin Objectives: 1A1 (a, b); 1B1 (a), 2A1 (a, b, c), 2A2 (a)).
    - Conduct water quality, hydrology and productivity surveys to determine physical, chemical, and biological effects on zooplankton biomass available for fish consumption and to complete modeling efforts. (Upper Columbia Subbasin Objectives (strategies) 1A1 (a, b), 1A2 (a, b, d), 1A3 (a, b, d, e), 1B2 (h, i). Spokane Subbasin Objectives 1B2 (e), 1B3 (e, h, j), 1B4 (b), 1B6 (a), 1B7 (a, b, c)).
    - Complete a Lake Roosevelt ecology model to determine effects of changing hydro-operations, water retention time, water quality and predation on productivity in Lake Roosevelt. (Upper Columbia Subbasin Objectives (strategies) 1A1 (a, b), 1A2 (b, d), 1A3 (a, b, d), 1B2 (h, i). Spokane Subbasin Objectives 1B2 (e), 1B3 (e)).
    - Conduct mark-recapture studies of the artificial production program to determine release strategies that maximize harvest and adult returns. (Upper Columbia Subbasin Objectives (strategies) 1A1 (a, b), 1B2 (c), 2A1 (a, c), 2A2 (c). Spokane Subbasin Objectives 1B7 (b)).
    - Map the availability of fish habitat in Lake Roosevelt at various lake elevations to determine shifts in habitat availability at changing lake levels. (Upper Columbia Subbasin Objectives (strategies) 1A2 (a), 1B2 (h), 2A1 (a), 2A2 (a, b). Spokane Subbasin Objectives 1B1 (a), 1B2 (i), 1B7 (a, b, c)).
    - Develop a Lake Roosevelt Management Plan to guide management decisions. (Upper Columbia Subbasin Objectives (strategies) 1A2 (c), 1A3

(e), 2A1 (b, c, d), 2A2 (a, b, d, e), 2C1 (a, b, d, e, f). Spokane Subbasin Objectives 1B2 (c), 2A2 (a, d, e, f), 2A3 (f, g), 2C2 (c)).

- Collect macroinvertebrate community data to monitor temporal-spatial physical, chemical, and population indices. (Upper Columbia Columbia Subbasin Objectives (strategies) 2A1 (a, b), 1A2 (a, c, d); Spokane Subbasin Objectives 1B1 (d, i), 1B7 (a, c, d)).

2. As partial mitigation for resident fish losses, fund a cooperative project among the Spokane Tribe of Indians, Confederated Colville Tribes and the Washington Department of Fish and Wildlife to complete a baseline assessment of white sturgeon populations and associated habitats in Lake Roosevelt from Grand Coulee Dam to the international border, including the Spokane Arm of Lake Roosevelt. (Upper Columbia Subbasin Objectives (strategies) 2A1 (a), 2A2 (a, c, d, e), 2B, 2C1 (a, c); Spokane Subbasin Objectives 1A1 (a, b), 2C1 (a, b), 2C2 (a, c), Research, monitoring and evaluation plan).
   - Complete assessments of current population size, abundance of each age class, age/length frequency, recruitment rate, mortality, distribution and migration patterns, life history, habitat use, environmental factors affecting abundance. (Upper Columbia Subbasin Objectives 2C1 (c). Spokane Subbasin Objectives 1A1 (a, b)).
   - Assess feasibility for a conservation artificial production facility. (Upper Columbia Subbasin Objectives (2A1 (a), 2A2 (c, d, e), 2C1 (a, c). Spokane Subbasin Objectives 2C1 (a, b), 2C2 (a, c)).
   - Implement research, monitoring, evaluation and recovery measures using the Upper Columbia White Sturgeon Recovery Initiative plan as a guide. (Upper Columbia Subbasin Objectives 2A1 (a), 2A2 (a, c, d, e), 2B, 2C1 (a, c). Spokane Subbasin Objectives 1A1 (a, b), 2C1 (a, b), 2C2 (a, c)).

3. Operate Grand Coulee Dam as recommended by the Northwest Power and Conservation Council's Mainstem Amendments to the Columbia River Basin Fish and Wildlife Program (2003). (Upper Columbia Subbasin Objectives (strategies) 1A1 (a, b, c, d); Spokane Subbasin Objective (strategies): 1A1 (c)).

4. Assess genetic distribution of redband trout and other native species throughout the intermountain province in coordination with fisheries co-managers (Upper Columbia Subbasin Objectives (strategies) 1C1 (a), 2A1 (a); Spokane Subbasin Objective (strategies): 1C1 (a), 2A1 (a-c)).

5. As partial mitigation for anadromous fish losses enhance and monitor/evaluate water quality, productivity, habitat, and fish communities of lakes and tributaries on and adjacent to the Spokane Indian Reservation. (Spokane Subbasin Objectives (strategies) 1B1 (a-e), 1B2 (a-g) 1B3 (a-j), 1B4 (a-h), 1B5 (a-c), 1B6 a, b), 1C4 (a-d),1C6, 2A1 (a-c), 2A2, (a-f), 2A3 (a-h), 2B1 (a-c), 2C1 (a-b), 2C2 (a-c), 2C3 (b)).

6. Support objectives to assess feasibility for anadromous fish reintroductions above Chief Joseph Dam and Grand Coulee Dam (Upper Columbia Subbasin Objectives (strategies) 2D1 (a, b), 2D2; Spokane Subbasin Objectives 2D1 (a, b), 2D2).

7. Assist in funding transboundary water quality issues and monitoring and implementation of water quality strategies that benefit the upper Columbia River and its tributaries, including alternative reservoir operation scenarios. [Spokane Subbasin Objectives (strategies) 1B3 (h, i, j), 1B5 (a, b)].

8. Operate and maintain Lake Roosevelt and Banks Lake artificial production program (Spokane Tribal, Sherman Creek and Ford Trout Hatcheries and Lake Roosevelt Net Pen Project) to continue production of kokanee salmon and rainbow trout. [Upper Columbia Subbasin Objectives (strategies) 2A1 (b, d), 2A2 (b, c, d, e), 2C1 (a, b, d, f); Spokane Subbasin Objectives (strategies) 2C1 (a, b), 2C3 (b, f)].

9. Perform baseline investigation to assess current status of kokanee salmon populations, determine and implement habitat improvement necessary to achieve wild kokanee salmon biological objectives and develop harvest management regulations to protect wild kokanee salmon. Upper Columbia Subbasin Objectives (strategies) 1A1 (a, b, d), 1A2 (a-d), 1A3 (a-e), 1A5 (a-d), 1B2 (a-k), 1B3 (a-g), 1B6 (a-e), 1B7 (a-g), 1B8 (a-d) 2A1 (a-d), 2A2 (a-e); Spokane Subbasin Objectives (strategies) 1A1 (a, b), 1B1 (a-e), 1B2 (a-j), 1B4 (a-h), 1B5 (a-c), 1B7 (a-e), 1C4 (a), 2A1 (a-c), 2A2 (a-f), 2A3 (a-h), 2C2 (a), 2C3 (b, f)).

10. Complete habitat improvements in selected tributaries to improve passage and habitat for sensitive salmonid species. [Upper Columbia Subbasin Objectives (strategies) 1A1 (a, b, d), 1A2 (a-d), 1A3 (a-e), 1A5 (a-d), 1B2 (a-k), 1B3 (a-g), 1B6 (a-e), 1B7 (a-g), 1B8 (a-d) 2A1 (a-d), 2A2 (a-e); Spokane Subbasin Objectives (strategies) 1A1 (a, b), 1B1 (a-e), 1B2 (a-j), 1B4 (a-h), 1B5 (a-c), 1B7 (a-e), 1C4 (a), 2A1 (a-c), 2A2 (a-f), 2A3 (a-h), 2C2 (a), 2C3 (b, f)].

Terrestrial measures

11. Complete mitigation for the construction and inundation losses of wildlife habitat, as defined in the Wildlife Protection, Mitigation and Enhancement Planning for Grand Coulee Dam (Final Report 1986). (Upper Columbia Subbasin Objectives 1A1 through 1A9, 2C2; Spokane Subbasin Objectives 1A1 through 1A9; 2B3).

12. Conduct annual Operation and Maintenance activities on lands that are acquired as wildlife mitigation (consistent with the CBFWA Wildlife Operation, Maintenance, and Enhancement Guidelines). [Upper Columbia Subbasin Objectives (strategies) 1A (a, c); Spokane Subbasin Objectives 1A10, 1A11].

13. Conduct annual Monitoring and Evaluation activities on lands that are acquired through wildlife mitigation. [Upper Columbia Subbasin Research, Monitoring and Evaluation Plan; Spokane Subbasin Research, Monitoring and Evaluation Plan].

14. Implement as partial mitigation a Sharp-tailed Grouse Restoration Project on the Spokane Indian Reservation. [Upper Columbia Subbasin Objectives (strategies) 1A8 (a, b, c) and 2A2; Spokane Subbasin Objectives 1A8 and 2A2].

15. Conduct a terrestrial operational loss assessment for Grand Coulee Dam, develop a mitigation plan, and implement projects as mitigation for identified losses. [Upper Columbia Subbasin Objectives 1B1 and 1B3; Spokane Subbasin Objectives 1B1 through 1B3].

Biological Objectives

Coeur d'Alene Tribe

Coeur d'Alene Subbasin

Restoration

The Coeur d'Alene Tribe will implement habitat restoration and enhancement measures primarily in Lake, Benewah, Evans and Alder Creeks located within the Coeur d'Alene Indian Reservation. Projects will be prioritized based on their potential for fostering long-term ecological recovery and will be pursued in locations that restore habitat linkages to highly productive habitats.

Strategies include:

1) removing or modifying those land use impacts that are causing habitat degradation,
2) re-establishing riparian/stream linkages and removing barriers to fish passage,
3) restoring natural ecosystem processes and riparian plant communities,
4) improving stream channel stability through restoration of incised stream reaches,
5) reduction of sediment mobilization and transport from upland sources, and
6) improving instream habitat complexity.

Harvest

These measures will be addressed in a phased approach that provides interim fishery benefits while the risks of hatchery production to natural fish can be developed and refined based on evaluations of critical uncertainties.

Strategies include:

1. Phase 1 involves immediate provision of harvest opportunities through the use of a hatchery to produce or grow out trout for release into isolated catch out ponds that provide a 'put and take' sport fishery on the reservation.

2. Phase 2 provides a put-and-take cutthroat trout fishery in reservation streams currently lacking natural populations. A hatchery will produce captive-reared progeny of wild parents for release into streams for put-and-take cutthroat trout fisheries.

3. Phase 3 will address the feasibility of utilizing hatchery production to conserve wild populations and re-establishing and creating populations where they currently do not exist.

Habitat Acquisition

1. Implement plans to purchase or acquire conservation easements on high priority land that includes specific riparian and/or wetland habitat or other habitats that exert a demonstrable influence on processes affecting the abundance and distribution of target species. These lands would then be managed in perpetuity specifically for fish and wildlife production. Other incidental uses would have to be compatible with those purposes, as determined by supporting biological information.

Research Monitoring and Evaluation

The Tribe will pursue a research, monitoring and evaluation (RM&E) program to identify and resolve critical uncertainties relative to the response of westslope cutthroat trout populations to habitat improvements and the ability of natural populations to provide harvest opportunities to offset anadromous fish losses (*see box 1*).

Strategies include:

1. measure a core set of physical, chemical and biological variables at a number of stratified, randomly selected "control" and treatment sites in target tributaries,
2. measure the annual production of cutthroat trout in target streams and evaluate changes in production relative to habitat modifications,
3. evaluate the effectiveness of brook trout removal strategies in Alder and Benewah creeks and monitor the response of cutthroat populations,
4. measure life-stage survival rates of adfluvial westslope cutthroat trout in stream and lake environments using mark-recapture techniques;
5. measure the annual production of non-native species (e.g. northern pike, largemouth and smallmouth bass) that prey on adfluvial westslope cutthroat trout in Coeur d'Alene Lake.

Adaptive management strategies will be implemented based on the results of RM&E work to improve the long-term success of Program measures.

Education and Outreach

1. The Tribe will conduct an educational/outreach program for private landowners, students and the general public within the Coeur d'Alene Reservation to facilitate a "holistic" watershed protection process.

Box 1: Critical Uncertainties Regarding Cutthroat Trout Use, Limiting Factors, and Restoration

1. Habitat and rearing density limitations on cutthroat trout production.
2. Constraints in tributaries associated with other species, especially including brook trout.
3. Life stages and survival rates that currently regulate cutthroat trout population sizes.
4. Relationship of resident and adfluvial life history traits in cutthroat trout.
5. Interactions in lake between wild cutthroat and potential fish predators.
6. Feasibility of using hatchery production to reintroduce resident and adfluvial cutthroat into streams where they do not currently exist.
7. Feasibility of using hatchery production to reduce extinction risks in natural populations of adfluvial fish.
8. Interactions in stream habitats between hatchery and naturally produced fish.

ur d'Alene Reservation Tributary Biological/Habitat Objectives

Biological objectives for the adfluvial and resident life histories of cutthroat trout in tributaries on the Coeur d'Alene Reservation located within the Coeur d'Alene Subbasin include restoring populations to a desired future condition based on the estimated historic abundance levels for adult fish in four target watersheds. This will be accomplished by achieving interim biological and habitat objectives (25, 50 and 75 percent of optimal level) by the target dates noted in the following tables (*Tables 1 and 2*).

The biological objectives are the sum of escapement and harvest targets, with the 100 percent target level approximating the number of adult fish needed to fully seed the available spawning habitat (*Table 1).* This target level is thought to be roughly equivalent to the historic abundance of adfluvial cutthroat in the respective systems. Escapement targets have yet to be determined, but will be derived as part of the ongoing process of refining program measures. Escapement targets will ultimately be determined from estimates of the probability of persistence after Dennis et al. (1991) to ensure that persistence over the next 100 years would exceed 99%. Once minimum escapement targets are reached, harvest targets will be incrementally increased to meet the subsistence needs of Tribal members. Harvest targets will also be determined as part of the ongoing process of refining program measures.

Achievement of cutthroat trout biological objectives is related to enhancing habitat indicators in each tributary to achieve desired future conditions (*Table 2).* The habitat indicators include key parameters affecting production and growth of resident salmonids and are consistent with the monitoring protocols being implemented by the Coeur d'Alene Tribe. Optimal and/or target conditions were derived from peer reviewed scientific literature and habitat suitability indices.

Table 1. Biological Objectives for Coeur d'Alene Reservation Tributaries in the Coeur d'Alene Subbasin.

Tributary	Target Level[a]	Escapement Target[c]	Harvest Target[d]	Biological Objective[b]	Year
Alder Creek	25	TBD	TBD	2,628	2015
	50	TBD	TBD	5,256	2025
	75	TBD	TBD	7,882	2035
	100	TBD	TBD	10,510	Beyond
Benewah Creek	25	TBD	TBD	3,353	2015
	50	TBD	TBD	6,704	2025
	75	TBD	TBD	10,053	2035
	100	TBD	TBD	13,405	Beyond
Evans Creek	25	TBD	TBD	1,514	2015
	50	TBD	TBD	3,028	2025
	75	TBD	TBD	4,540	2035
	100	TBD	TBD	6,054	Beyond
Lake Creek	25	TBD	TBD	3,080	2015
	50	TBD	TBD	6,160	2025
	75	TBD	TBD	9,240	2035
	100	TBD	TBD	12,320	Beyond

[a] Target level is defined as the percent of estimated historic abundance levels based on the productivity of undisturbed habitats.

[b] Biological objective is the sum of escapement and harvest targets. The 100 percent target level is defined as the number of adult fish needed to fully seed the available spawning habitat, given the following assumptions:

- Spawning is primarily restricted to 2nd order tributaries (CDA Tribe population data, 1994-1998);
- Usable spawning habitat comprises 4.1% of the total stream area in 2nd order tributaries, when averaged across the four target watersheds (CDA Tribe habitat assessment data, 1998);
- Potential spawning gravel was defined as patches of substrate at least 0.25 m^2 in area with particles 2-35 mm in diameter and average redd size is 0.15m^2 (Magee et al. 1996).
- 1:1.6 male to female spawner ratio (IDFG 1998);
- 3 redds for every 2 spawning females (Scott and Crossman 1973);

[c] Escapement targets will be calculated as the minimum number of spawning adults needed to ensure a probability of persistence greater than 99% over 100 years (Dennis et al 1991).

[d] Harvest targets will be established as part of the ongoing process to refine program measures.

Table 2. Habitat objectives for Coeur d'Alene Reservation tributaries in the Coeur d'Alene Subbasin.

Lake Creek

Habitat Indicators	Baseline Condition (1998)	Optimal Condition	Target Conditions		
			25	50	75
Tributaries					
Residual Pool Depth	TBD	1.5 m			
Stream Canopy Density	52%	75%	58	64	69
LWD Density	0.013 m^3/m	0.133-0.514	0.104	0.196	0.288
Pool Frequency	24.7%	35-65%	35	45	55
Fines (<4mm) in	39.0	<10%	31.7	24.5	17.3
Channel/Bank Stability	106	<77	98	90	82
Max Water Temperature	<16°C	16°C	NC	NC	NC
Mainstem					
Residual Pool Depth	TBD	1.5 m			
Stream Canopy Density	37%	75%	47	56	66
LWD Density	0.013 m^3/m	0.133-0.514	0.104	0.196	0.289
Pool Frequency	19.7%	35-65%	31	43	54
Fines (<4mm) in Riffle-	36.5%	<15%	31	26	20
Channel/Bank Stability	87	<77	84	81	77
Max Water Temperature	20°C	18°C	19	18	NC

Benewah Creek

Habitat Indicators	Baseline Condition (1998)	Optimal Condition	Target Conditions		
			25	50	75
Tributaries					
Residual Pool Depth	TBD	1.5 m			
Stream Canopy Density	64%	75%	67	70	72
LWD Density	0.003 m^3/m	0.133-0.514 m^3/m	0.098	0.193	0.289
Pool Frequency	48.3%	35-65%	52	57	61
Fines (<4mm) in Spawning Gravels	18.8%	<10%	16.6	14.4	12.2
Channel/Bank Stability	91	<77	87	83	79
Max Water Temperature	17°C	16°C	16	NC	NC
Mainstem					
Residual Pool Depth	TBD	1.5 m			
Stream Canopy Density	31%	75%	42	53	64
LWD Density	0.003 m^3/m	0.133-0.514	0.098	0.193	0.289
Pool Frequency	21.7	35-65%	33	43	54
Fines (<4mm) in Riffle-	4%	<15%	NC	NC	NC
Channel/Bank Stability	87	<77	84	81	78
Max Water	22°C	18°C	21	20	19

Alder Creek

Habitat Indicators	Baseline Condition (1998)	Optimal Condition	Target Conditions		
			25	50	75
Tributaries					
Residual Pool Depth	TBD	1.5 m			
Stream Canopy Density	61.9%	75%	65	68	72
LWD Density	0.006 m^3/m	0.133-0.514 m^3/m	0.101	0.197	0.292
Pool Frequency	40.7	35-65%	47	53	59
Fines (<4mm) in Spawning Gravels	13.6%	<10%	12.7	11.6	10.5
Channel/Bank Stability	80	<77	79	78	77
Max Water Temperature	16.6°C	16°C	16	NC	NC
Mainstem					
Residual Pool	TBD	1.5 m			
Stream Canopy	52.9%	75%	58	64	69
LWD Density	0.006 m^3/m	0.133-0.514	0.101	0.197	0.292
Pool Frequency	38%	35-65%	45	52	58
Fines (<4mm) in	<15%	<15%	NC	NC	NC
Channel/Bank	86	<77	83	81	77
Max Water	19°C	18°C	18	NC	NC

Evans Creek

Habitat Indicators	Baseline Condition (1998)	Optimal Condition	Target Conditions		
			25	50	75
Tributaries					
Residual Pool Depth	TBD	1.5 m			
Stream Canopy Density	80%	75%	NC	NC	NC
LWD Density	0.016 m^3/m	0.133-0.514 m^3/m	0.111	0.207	0.302
Pool Frequency	>65%	35-65%	NC	NC	NC
Fines (<4mm) in Spawning Gravels	13.5%	<10%	12.6	11.8	10.9
Channel/Bank Stability	73	<77	NC	NC	NC
Max Water Temperature	<16°C	16°C	NC	NC	NC
Mainstem					
Residual Pool	TBD	1.5 m			
Stream Canopy	61%	75%	65	68	72

LWD Density	0.016 m^3/m	0.133-0.514	0.111	0.207	0.302
Pool Frequency	41%	35-65%	47	53	59
Fines (<4mm) in	<15%	<15%	NC	NC	NC
Channel/Bank	93	<77	88	84	79
Max Water	17°C	18°C	NC	NC	NC

Spokane Subbasin

The Coeur d'Alene Tribe will implement habitat restoration and enhancement measures in Hangman Creek, and it's tributaries. Projects will be prioritized based on their potential for fostering long-term ecological recovery and will be pursued in locations that restore habitat linkages to highly productive habitats. Strategies include: 1) removing or modifying those land use impacts that are causing habitat degradation, 2) re-establishing riparian/stream linkages and removing barriers to fish passage, 3) restoring natural ecosystem processes and riparian plant communities, 4) improving stream channel stability through restoration of incised stream reaches, 5) reduction of sediment mobilization and transport from upland sources, and 5) improving instream habitat complexity.

Harvest objectives will be addressed in a phased approach that provides interim fishery benefits while the risks of hatchery production to natural fish can be developed and refined based on evaluations of critical uncertainties. Phase 1 involves immediate provision of harvest opportunities through the use of a hatchery to produce or grow out trout for release into isolated catch out ponds that provide a 'put and take' sport fishery on the reservation. Phase 2 provides a put-and-take trout fishery in reservation streams currently lacking natural populations. A hatchery will produce captive-reared progeny of wild parents for release into streams for put-and-take trout fisheries. This phase of the project will simultaneously address the feasibility of utilizing hatchery production to conserve wild populations and re-establishing and creating populations where they currently do not exist.

Implement plans to purchase or acquire conservation easements on high priority land that includes specific riparian and/or wetland habitat or other habitats that exert a demonstrable influence on processes affecting the abundance and distribution of target species. These lands would then be managed in perpetuity specifically for fish and wildlife production. Other incidental uses would have to be compatible with those purposes, as determined by supporting biological information.

The Tribe will pursue a research, monitoring and evaluation (RM&E) program to identify and resolve critical uncertainties (*Box 1*) relative to the response of native trout populations to habitat improvements and the ability of natural populations to provide harvest opportunities to offset anadromous fish losses.

RM&E strategies will be developed in the final year of assessment and will follow the same approach described in the comprehensive research monitoring and evaluation plan (Vitale et al. 2003). The RM&E strategies include: 1) measure a core set of physical, chemical and biological variables at a number of stratified, randomly selected "control" and treatment sites in target tributaries, 2) measure the annual production of native trout in target streams and evaluate changes in production relative to habitat modifications, 3) evaluate the effectiveness of removal of non-native fish, 4) measure life-stage survival rates of fluvial and resident redband trout in streams using mark-recapture techniques; 5) Measure discharge, temperature, and Total Suspended Solids, as a response to restoration efforts. Adaptive management strategies will be implemented and refined based on the results of RM&E.

Adaptive management strategies will be implemented based on the results of RM&E work to improve the long-term success of Program measures. Also, the Tribe will conduct an educational/outreach program for private landowners, students and the general public within the Coeur d'Alene Reservation to facilitate a "holistic" watershed protection process.

Box 1: Critical Uncertainties Regarding Redband Trout Use, Limiting Factors, and Restoration

1. Habitat and rearing density limitations on Redband trout production.
2. Constraints in tributaries associated with other species, especially including non-native cutthroat trout.
3. Life stages and survival rates that currently regulate Redband trout population sizes.
4. Relationship of resident and fluvial life history traits in Redband trout.
5. Feasibility of using hatchery production to reintroduce resident and fluvial Redband trout into streams where they do not currently exist.
6. Feasibility of using hatchery production to reduce extinction risks in natural populations of fluvial fish.
7. Interactions in stream habitats between hatchery and naturally produced fish.

Hangman Creek Biological/Habitat Objectives

Biological objectives for the fluvial and resident life histories of redband trout in the mainstem and tributaries of Hangman Creek within the Spokane Subbasin include restoring populations to a desired future condition. Quantifying the desired future condition is difficult given the lack of historic abundance levels for of adult fish. Ongoing interviews with local landowners reveal that salmonid distribution was widespread just twenty to thirty years ago when riparian burning and channel alterations by state and federal agencies occurred within agriculture impacted areas. However, this type of information lacks population data as well as reliable species composition. Recent qualitative habitat assessments and

distribution and relative abundance of redband trout in the Hangman Creek drainage reveal that current conditions are characterized by highly degraded habitat with only a small fraction of the unknown historical redband trout production. The program goal is to develop a subsistence fishery for tribal members while sustaining a robust natural population of redband trout with a high probability to persist in the future. With the above goal in mind, we will increase the natural production of redband trout through large-scale habitat improvements and management practices that protect the habitats. Ultimately, when natural production rates increase, we will develop harvest targets that maintain the escapement target to sustain natural production. The escapement target will ultimately be determined from estimates of the probability of persistence after Dennis et al. (1991) to ensure a 99% probability of persistence of redband trout over the next 100 years. Once minimum escapement targets are reached, harvest targets will be incrementally increased to meet the subsistence needs of Tribal members. If RM&E results reveal that the redband trout population is depressed to the extent that it cannot respond to habitat restoration, then artificial production strategies will be evaluated to reintroduce redband trout into historical habitats and provide a tribal subsistence fishery.

UPPER COLUMBIA UNITED TRIBES

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Colville * Coeur d'Alene * Kalispel * Kootenai * Spokane

August 11, 2004

Judi Danielson, Chair
Northwest Power and Conservation Council
851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348

RE: Comments on Subbasin Plans in the Upper Columbia Ecoregion

Dear Ms. Danielson:

This letter is submitted as comments from the UCUT member Tribes, to provide additional information concerning the measures submitted by UCUT in May as components of the Intermountain Province (IMP) subbasin plans. Our continued support for the six IMP subbasin plans (Coeur d' Alene, Upper Columbia, Lake Rufus Woods, Pend Oreille, San Poil, and Spokane) is strongly tied to the NPCC's adoption of these measures. Likewise, we support the Kootenai River, Okanogan, and Upper Columbia Mainstem subbasin plans with the expectation that "strategies" (measures) in these plans will be adopted into the Council's Fish & Wildlife Program.

We have participated in and support the full adoption of subbasin plans in the Upper Columbia ecoregion as submitted to the NPCC for amendment into its Fish and Wildlife Program, with UCUT measures as essential components. We have made sure that all UCUT measures are supported by and consistent with the subbasin plans, and have tied them directly to objectives and strategies that are contained within the subbasin plans. These measures were developed in coordination with other Fish and Wildlife Managers and are not in conflict with their efforts or strategies within the subbasin plans.

It is the UCUT position that, without specific measures, the subbasin planning effort fails to meet specific requirements of the Act and judicial interpretations of the Act. It is our recommendation that the Council adopt these measures as submitted. If the NPCC chooses not to accept our recommendations, the Act requires the NPCC to fully explain, in writing, why it acted in opposition to the recommendations of these tribes.

In deliberations among UCUTs' fish and wildlife managers - who collectively have substantial expertise and many years of experience implementing BPA-funded projects - we have assessed the measures with regard to BPA's obligations and responsibilities for fish and wildlife mitigation in the Upper Columbia River ecoregion. It is our carefully-considered determination that full implementation of these measures is necessary to remain consistent with the NW Power Act and Fish and Wildlife Program Policies.

Further, our experienced managers have conservatively estimated the cost of implementing these measures at a reasonable and achievable pace of implementation. Full implementation of measures in the InterMountain Province and Kootenai River, Okanogan, and Upper Mainstem subbasins will require designated funding averaging approximately $52 million annually (combined capital and expense) over the next 10 to 15 years. The spreadsheet attached to this letter summarizes the annual costs associated with implementation of these measures. These estimates incorporate funding for some of the Tribes' planning and management partners. We have attempted to organize measures into Habitat-Aquatic, Habitat-Terrestrial, Program Support, Harvest and Artificial Production categories, to be consistent with categories under consideration in MOAII workgroups. We feel strongly that this is a practical figure based upon a reasonable pace of implementation to continue short and long-term benefits to this eco-region.

We look forward to working with the NPCC members and staff, the Independent Scientific Review Panel, and the Bonneville Power Administration to ensure the measures are understood and incorporated in the Fish and Wildlife Program. Please do not hesitate to contact UCUT Central Office or member Tribes to further discuss issues related to the subbasin plans, our collective measures, and budget estimates.

Thank you for your attention to this important matter.

Sincerely,

/s/

Warren Seyler,
Chairman, UCUT

Enclosure

cc: Jim Kempton
Melinda Eden
Gene Derfler
Ed Bartlett
John Hines
Frank "Larry" Cassidy
Tom Karier

EEDED TO IMPLEMENT UPPER COLUMBIA ECOREGION SUBBASIN PLANS

	FY06	FY07	FY08	FY09	FY10	FY 11-15	TOTAL
INTERMOUNTAIN PROVINCE							
MOAII Category - HABITAT AQUATIC	$9.45	$11.45	$12.25	$12.36	$12.80	$56.95	$115.26
MOAII Category - HABITAT UPLAND/TERRESTRIAL	$15.33	$12.30	$12.25	$11.40	$11.40	$46.63	$109.30
MOAII Category - PROGRAM SUPPORT	$3.97	$5.06	$4.81	$3.29	$3.17	$12.38	$32.67
MOAII Category - HARVEST	$0.30	$0.30	$0.30	$0.30	$0.30	$1.50	$3.00
MOAII Category - ARTIFICIAL PRODUCTION	$6.00	$6.09	$5.06	$5.39	$5.70	$22.30	$50.52
TOTAL ALL CATEGORIES - INTERMOUNTAIN PROVINCE	$35.05	$35.20	$34.67	$32.74	$33.37	$139.76	$310.75
KOOTENAI RIVER SUBBASIN							
MOAII Category - HABITAT AQUATIC	$3.00	$3.00	$4.25	$4.05	$4.05	$20.25	$38.60
MOAII Category - PROGRAM SUPPORT	$1.60	$0.90	$0.40	$0.40	$0.40	$2.00	$5.00
MOAII Category - ARTIFICIAL PRODUCTION	$1.80	$3.50	$3.00	$1.70	$1.70	$8.50	$20.20
TOTAL ALL CATEGORIES - KOOTENAI R. SUBBASIN	**$6.40**	**$7.40**	**$7.65**	**$6.15**	**$6.15**	**$30.75**	**$63.80**
OKANOGAN SUBBASIN & UPPER MAINSTEM							
MOAII Category - HABITAT AQUATIC	$1.30	$2.25	$6.40	$5.90	$1.55	$5.20	$22.60
MOAII Category - PROGRAM SUPPORT	$1.65	$1.55	$1.55	$1.20	$1.20	$6.20	$13.35
MOAII Category - ARTIFICIAL PRODUCTION	$2.60	$1.85	$11.65	$12.40	$2.25	$11.80	$42.55
TOT. ALL CATEGORIES OKANOGAN & UPPER MAINSTEM	**$5.55**	**$5.65**	**$19.60**	**$19.50**	**$5.00**	**$23.20**	**$78.50**
GRAND TOTAL ALL CATEGORIES -							
IMP, KOOTENAI R., OKANOGAN & UPPER MAINSTEAM	***$47.00***	***$48.25***	***$61.92***	***$58.39***	***$44.52***	***$193.71***	***$453.05***

INTERMOUNTAIN PROVINCE

MOAII Category - HABITAT AQUATIC	FY06	FY07	FY08	FY09	FY10	FY 11-15	TOTAL
CdA Resident Priority Tributary Habitat Enhancement (includes M&E, Education, and Conservation Easements)	$1.25	$1.25	$1.30	$1.35	$1.40	$7.00	$13.55
Spokane Subbasin Habitat Protection (Hangman Restoration)	$1.50	$1.50	$1.50	$1.50	$1.50	$7.50	$15.00
Spokane Subbasin Habitat O&M	$0.30	$0.30	$0.30	$0.30	$0.35	$1.75	$3.30
CdA Subbasin Habitat Protection (Coeur d'Alene Wetlands)	$1.50	$1.50	$1.50	$1.50	$1.50	$7.50	$15.00
CdA Subbasin Habitat O&M	$0.30	$0.30	$0.30	$0.30	$0.35	$1.75	$3.30
Spokane (Hangman Watershed Habitat Protection and Enhancement, Includes M&E, Education and Conservation Easements)	$0.30	$0.75	$0.80	$0.85	$0.90	$4.50	$8.10
Riparian & Island Hab Protection - LR, San Poil, Etc.	$0.50	$0.50	$0.50	$0.53	$0.60	$2.80	$5.43
Native Origin Kokanee Habitat Enhancement	$0.40	$0.40	$0.40	$0.40	$0.40	$2.00	$4.00
Bull Trout & Westslope Cutthroat Enhancement (includes O&M & M&E)	$0.50	$0.50	$0.50	$0.53	$0.60	$2.80	$5.43
Bass Winter Cover	$0.05	$0.05	$0.05	$0.05	$0.05	$0.25	$0.50
PendOreille Watershed Habitat Protection & Enhancement #1	$1.25	$1.25	$1.25	$1.25	$1.25	$6.25	$12.50
Lake Roosevelt rainbow trout habitat restoration	$0.35	$0.40	$0.40	$0.45	$0.45	$1.80	$3.85
Lake Roosevelt White Sturgeon hab restor/enhancement	$0.00	$0.00	$0.50	$0.50	$0.50	$2.00	$3.50
Lake Roosevelt Kokanee Habitat Enhancement	$0.18	$0.18	$0.18	$0.18	$0.18	$0.88	$1.75
Native Origin Kokanee Habitat Enhancement	$0.40	$0.40	$0.40	$0.40	$0.40	$1.80	$3.80
Rufus Woods habitat restoration & enhancement	$0.00	$0.00	$0.00	$0.85	$0.90	$3.00	$4.75
San Poil hab restor & enhancmt	$0.40	$0.60	$0.80	$0.85	$0.90	$2.00	$5.55
Implement strobe-light entrainment prevention, incl. M&E	$0.20	$1.50	$1.50	$0.50	$0.50	$1.00	$5.20
Spokane Reservation Lakes & Streams Protection & Enhancement	$0.08	$0.08	$0.08	$0.08	$0.08	$0.38	$0.75
SUBTOTAL HABITAT AQUATIC	***$9.45***	***$11.45***	***$12.25***	***$12.36***	***$12.80***	***$56.95***	***$115.26***

MOAII Category - HABITAT UPLAND/TERRESTRIAL	FY06	FY07	FY08	FY09	FY10	FY 11-15	TOTAL
Albeni Falls Complete Habitat Protection	$5.00	$5.00	$5.00	$5.00	$5.00	$15.00	$40.00
Albeni Falls O&M	$1.70	$1.70	$1.70	$2.00	$2.00	$10.00	$19.10
CdaA Lake Creek Habitat Protection	$1.00	$1.00	$1.00	$1.00	$1.00	$5.00	$10.00
CdA Lake Creek Habitat O&M	$0.20	$0.20	$0.20	$0.25	$0.25	$1.25	$2.35
CCT Habitat Protection	$4.50	$1.50	$1.50	$1.50	$1.50	$10.00	$20.50
CCT O&M, M&E	$0.50	$0.50	$0.50	$0.80	$0.80	$4.00	$7.10
Multi-Agency Sharp-Tailed Grouse Regional Brood-rear (includes habitat assessment)	$0.50	$0.50	$0.50	$0.50	$0.50	$0.00	$2.50
STOI Habitat Protection	$1.50	$1.50	$1.50	$0.00	$0.00	$0.00	$4.50
STOI O&M, M&E	$0.28	$0.25	$0.25	$0.25	$0.25	$1.00	$2.28
STOI Sharp-Tailed Grouse Reintroduction	$0.15	$0.15	$0.10	$0.10	$0.10	$0.38	$0.98

SUBTOTAL HABITAT UPLAND/TERRESTRIAL	*$15.33*	*$12.30*	*$12.25*	*$11.40*	*$11.40*	*$46.63*	*$109.30*

MOAII Category - PROGRAM SUPPORT	FY06	FY07	FY08	FY09	FY10	FY11-15	TOTAL
Albeni Falls Operational Loss Assessment	$0.00	$0.50	$0.50	$0.00	$0.00	$0.00	$1.00
CCT burbot, whitefish assessment	$0.00	$0.50	$0.50	$0.50	$0.00	$0.00	$1.50
Grand Coulee Operational Loss Assessment	$0.00	$0.50	$0.50	$0.00	$0.00	$0.00	$1.00
Lake Roosevelt White Sturgeon Assessment	$0.27	$0.27	$0.29	$0.29	$0.31	$0.00	$1.42
Lake Roosevelt White Sturgeon Feasibility Study	$0.50	$0.00	$0.00	$0.00	$0.00	$0.00	$0.50
Resident Fish Stock Assessment (add CDA and IDFG)	$1.00	$1.00	$1.03	$1.06	$1.09	$5.50	$10.68
US-Canada Transboundary Water Quality Evaluation & Monitoring	$0.08	$0.08	$0.08	$0.08	$0.38		$0.68
Lake Roosevelt Evaluation Program	$1.00	$1.03	$1.06	$1.09	$1.12	$5.50	$10.80
Spokane Resident Tributaries and Lake Roosevelt Evaluation	$0.08	$0.08	$0.08	$0.08	$0.08	$0.38	$0.76
Rufus Woods fish/habitat assessment	$0.35	$0.40	$0.50	$0.00	$0.00	$0.00	$1.25
Sage Grouse Re-introduction Evaluation Study	$0.25	$0.25	$0.08	$0.00	$0.00	$0.00	$0.58
Pronghorn Antelope Feasibility Study	$0.25	$0.25	$0.00	$0.00	$0.00	$0.00	$0.50
Regional Coordination / Participation	$0.20	$0.21	$0.20	$0.20	$0.20	$1.00	$2.01
SUBTOTAL PROGRAM SUPPORT	***$3.97***	***$5.06***	***$4.81***	***$3.29***	***$3.17***	***$12.38***	***$32.67***

MOAII Category - HARVEST	FY06	FY07	FY08	FY09	FY10	FY11-15	TOTAL
Brook trout and Lake Trout removal (for bull trout)	$0.30	$0.30	$0.30	**$0.30**	**$0.30**	$1.50	$3.00
SUBTOTAL HARVEST	**$0.30**	**$0.30**	**$0.30**	**$0.30**	**$0.30**	**$1.50**	**$3.00**

MOAII Category - ARTIFICIAL PRODUCTION	FY06	FY07	FY08	FY09	FY10	FY 11-15	TOTAL
CDA and Spokane Subbasin Interim Production	$0.30	$0.30	$0.30	$0.30	$0.30	$1.50	$3.00
Westslope Cutthroat Production Facility	$2.00	$2.00	$0.55	$0.55	$0.55	$2.50	$8.15
CCT Native-origin Kokanee Supplementation	$0.50	$0.50	$0.50	$0.50	$0.50	$0.00	$2.50
CCT trout hatchery	$0.90	$0.93	$0.95	$0.97	$1.00	$5.50	$10.25
White Sturgeon Stopgap, Rufus Woods	$0.03	$0.03	$0.05	$0.05	$0.05	$0.00	$0.21
White Sturgeon Stopgap, Lake Roosevelt	$0.03	$0.03	$0.05	$0.05	$0.05	$0.00	$0.21
Conservation Aquaculture	$0.00	$0.00	$0.00	$0.25	$0.25	$0.50	$1.00
Sturgeon Hatchery	$0.00	$0.00	$0.25	$0.25	$0.50	$0.00	$1.00
Sherman Creek Hatchery	$0.90	$0.91	$0.91	$0.92	$0.93	$4.00	$8.56
Lake Roosevelt & Banks Lake Substitution (includes hatchery and net pens)	$1.00	$1.05	$1.10	$1.15	$1.12	$6.00	$11.42
Lake Rufus Woods Net Pen, rainbow trout	$0.15	$0.15	$0.20	$0.20	$0.25	$1.30	$2.25
Kalispel bass hatchery O&M (repair, maintenance, etc.)	$0.19	$0.19	$0.20	$0.20	$0.20	$1.00	$1.97
SUBTOTAL ARTIFICIAL PRODUCTION	***$6.00***	***$6.09***	***$5.06***	***$5.39***	***$5.70***	***$22.30***	***$50.52***

TOTAL ALL CATEGORIES - INTERMOUNTAIN PROVINCE	**$35.04**	**$35.20**	**$34.66**	**$32.74**	**$33.37**	**$139.76**	**$310.75**

KOOTENAI RIVER SUBBASIN

MOAII Category - HABITAT AQUATIC	FY06	FY07	FY08	FY09	FY10	FY11-15	TOTAL
Kootenai floodplain hab protect & enhcmt, incl O&M, M&E	$0.00	$0.00	$1.50	$1.50	$1.50	$7.50	$12.00
Kootenai ecosystem restor., incl. O&M, M&E	$1.50	$1.50	$1.50	$1.50	$1.50	$7.50	$15.00
Transboundary nutrient program	$0.50	$0.50	$0.50	$0.50	$0.50	$2.50	$5.00
Kootenai floodplain reconnection	$0.50	$0.50	$0.50	$0.30	$0.30	$1.50	$3.60
Enhance white sturgeon habitat, incl. O&M, M&E	$0.50	$0.50	$0.25	$0.25	$0.25	$1.25	$3.00
SUBTOTAL HABITAT AQUATIC	**$3.00**	**$3.00**	**$4.25**	**$4.05**	**$4.05**	**$20.25**	**$38.60**
MOAII Category - PROGRAM SUPPORT							
Kootenai floodplain loss assessment	$0.50	$0.50	$0.00	$0.00	$0.00	$0.00	$1.00
Kootenai sturgeon and burbot research	$0.20	$0.20	$0.20	$0.20	$0.20	$1.00	$2.00
Regional and community coordination and outreach	$0.90	$0.20	$0.20	$0.20	$0.20	$1.00	$2.00
SUBTOTAL PROGRAM SUPPORT	**$1.60**	**$0.90**	**$0.40**	**$0.40**	**$0.40**	**$2.00**	**$5.00**
MOAII Category - Artificial Production							
Sturgeon and burbot	$1.80	$3.50	$3.00	$1.70	$1.70	$8.50	$20.20
SUBTOTAL ARTIFICIAL PRODUCTION	**$1.80**	**$3.50**	**$3.00**	**$1.70**	**$1.70**	**$8.50**	**$20.20**
TOTAL ALL CATEGORIES - KOOTENAI R. SUBBASIN	**$6.40**	**$7.40**	**$7.65**	**$6.15**	**$6.15**	**$30.75**	**$63.80**

OKANOGAN SUBBASIN & UPPER MAINSTEM

MOAII Category - HABITAT AQUATIC	FY06	FY07	FY08	FY09	FY10	FY11-15	TOTAL
Salmon Cr. Restor & enhancmt	$0.35	$0.45	$3.85	$4.35	$0.40	$1.50	$10.90
Omak Cr. Hab restor & protect	$0.25	$0.70	$1.00	$0.80	$0.30	$1.20	$4.25
Okanogan basin anad. Fish hab restor & protect	$0.40	$0.60	$0.35	$0.40	$0.50	$1.50	$3.75
Okanogan R. anad. Fish passage/screening	$0.30	$0.50	$1.20	$0.35	$0.35	$1.00	$3.70
SUBTOTAL HABITAT AQUATIC	**$1.30**	**$2.25**	**$6.40**	**$5.90**	**$1.55**	**$5.20**	**$22.60**
MOAII Category - PROGRAM SUPPORT							
Okanogan Basin M&E	$0.90	$0.95	$0.95	$1.00	$1.00	$5.00	$9.80
Col. R. anad. Fish hab. Assessments	$0.35	$0.40	$0.40	$0.00	$0.00	$0.00	$1.15
Fishery Conservation Enforcement	$0.40	$0.20	$0.20	$0.20	$0.20	$1.20	$2.40
SUBTOTAL PROGRAM SUPPORT	**$1.65**	**$1.55**	**$1.55**	**$1.20**	**$1.20**	**$6.20**	**$13.35**
MOAII Category - ARTIFICIAL PRODUCTION							

Okanogan River steelhead hatchery	$0.80	$0.15	$0.15	$0.20	$0.25	$1.30	$2.85
CCT spring chinook hatchery, Chief Joe	$0.00	$0.00	$2.80	$3.20	$0.40	$2.00	$8.40
CCT summer chinook hatchery, Chief Joe	$1.80	$1.70	$8.70	$9.00	$1.60	$8.50	$31.30
SUBTOTAL ARTIFICIAL PRODUCTION	**$2.60**	**$1.85**	**$11.65**	**$12.40**	**$2.25**	**$11.80**	**$42.55**
TOT. ALL CATEGORIES OKANOGAN & UPPER MAINSTEM	**$5.55**	**$5.65**	**$19.60**	**$19.50**	**$5.00**	**$23.20**	**$78.50**
GRAND TOTAL ALL CATEGORIES - IMP, KOOTENAI R., OKANOGAN & UPPER MAINSTEAM	**$46.99**	**$48.25**	**$61.91**	**$58.39**	**$44.52**	**$193.71**	**$453.05**

UPPER COLUMBIA UNITED TRIBES

910 N. Washington, Suite 107
Spokane, Washington 99201
(509) 838-1057

*Colville * Coeur d'Alene * Kalispel * Kootenai * Spokane*

November 22, 2004

Judi Danielson, Chair
Northwest Power and Conservation Council
851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348

RE: Additional Comments on Subbasin Plan Amendments to the Fish and Wildlife Program

Dear Ms. Danielson:

This letter is submitted as comments from the UCUT member Tribes, to provide additional recommendations concerning the adoption of subbasin plans and to address questions raised to the region via the Northwest Power and Conservation Council's (NPCC) letter dated October 22, 2004. We are making specific UCUT recommendations in this letter, as well as endorsing some of the recommendations of the Intermountain Province Oversight Committee.

We take this opportunity to commend the NPCC on its ambitious task to develop subbasin plans within the Columbia River Basin. We are also pleased that our subbasin plans were recommended for adoption in this first round of amendment decisions. Although generally satisfied with outcomes regarding subbasin planning, we are concerned that an immediate solicitation track without an open and precise implementation strategy may ultimately jeopardize the planning efforts. We recommend that the time remaining in this rate period be used to develop the implementation process and provide the region with a fish and wildlife mitigation plan that is well supported and funded at a level consistent with the subbasin plans and Program

With regard to the level of specificity within subbasin plans, we strongly recommend that the NPCC consider and adopt measures as submitted by the UCUT. These measures - and the accompanying ten-year budget implementation table - describe appropriate levels of effort and specificity to implement subbasin plans for the InterMountain Province and Kootenai and Okanogan subbasins. UCUT members' support for the InterMountain Province plan is contingent upon adoption of accompanying measures.

The adoption of subbasin plans and measures should conclude this amendment process. We recommend the Council not continue to amend or delay the 2000 Program to increase the level of specificity in all subbasins. Rather, supplementation of other plans can be accomplished through alternate processes administered by the NPCC.

An implementation strategy for the Columbia River Basin should begin with a strict and thorough Program expenditure review. Once this step is completed, the NPCC should participate with BPA and the fish and wildlife agencies and Tribes in an open and transparent process to develop a geographic or provincial allocation method that equitably distributes funding within the entire basin. This allocation should then be incorporated into the MOA II and subsequent rate case proceedings to provide each subbasin/province enough resources to implement actions at a reasonable pace to meet FCRPS mitigation obligations.

UCUT recommends a geographic allocation method that ties Program implementation to FCRPS impacts and obligations and incorporates the following principles:

a) *Regional 70-15-15 Split* – This standard needs to be maintained and used as a benchmark for how well the region is implementing the diverse FCRPS mitigation responsibilities.
b) *Best science* - have projects continually received appropriate scientific review and approval?
c) *Historical success* - have past project goals been met and with economic efficiency?
d) *Long-term benefits* - do projects provide long-term benefits to fish and wildlife?
e) *Mitigation obligation* – do projects move toward fulfilling BPA's mitigation obligation?

f) *Equitable apportionment of mitigation efforts* - do projects focus effort in historically under-mitigated areas?
g) *Proportionality* - has BPA provided mitigation benefits to fish and wildlife in proportion to the relative impacts and benefits (power, irrigation, flood control) derived from operation of each facility in the hydropower system?
h) *Mitigation for lost anadromous fisheries* - do projects mitigate for anadromous fish lost to blockage by federal hydropower facilities?

With regard to the "roll up" question, we are confident that the InterMountain Province, Kootenai and Okanogan subbasin plans are adequately "rolled up" and tied to provincial and basin wide goals and objectives. Consideration must be given to the question of prioritization of actions called for in plans, both within the subbasins and among the subbasins. We feel strongly that the NPCC must adhere to the Power Act and 2000 Program priorities in order to effectively implement subbasin plans.

With regard to project review and implementation, adherence to the 2000 Program and the Power Act is essential. A key question is: "what parts of the subbasin plans do we implement as part of the Program?" We implore the NPCC to consider funding only those actions that are currently supported by the Act and it provisions. We are not interested in a process that allows BPA to fund "in-lieu" actions within the Basin.

With regard to ESA recovery, we agree with and are encouraged by the NPCC's acknowledgement that it has no statutory obligation to amend subbasin plans as ESA recovery plans. We also agree that parts of some subbasin plans do require actions that are directly related to FCRPS impacts and obligations. We encourage the NPCC to provide a mechanism that highlights these areas and focuses program implementation (mitigation or ESA recovery) on actions that mitigate FCRPS impacts and obligations.

Finally, regarding subbasin plan updates, we agree that subbasin plans must be routinely updated to reflect new knowledge and new understandings. We recommend that regularly scheduled amendment cycles to the program be used to consider amendments for updating assessments and management plans in a logical manner. We encourage the NPCC to develop standards and processes for future amendment processes between now and the next scheduled amendment cycle.

We look forward to working with NPCC members and staff, the Independent Scientific Review Panel, and the Bonneville Power Administration to ensure project solicitations meet the intent and objectives of the subbasin plans. Please do not hesitate to contact UCUT Central Office or member Tribes to further discuss issues related to our comments.

Thank you for your attention to this important matter.

Sincerely,

Warren Seyler
UCUT Chairman

cc.: NPCC Members
Doug Marker, NPCC
Greg Delwiche & Bill Maslen, BPA
Rod Sando, CBFWA
UCUT Member Tribes- Policy & Managers

Revised D R A F T 12/06/04

UCUT Proposal[1] for Allocating BPA Fish and Wildlife Mitigation Funding to the Upper Columbia Ecoregion[2]

Introduction

With the adoption of subbasin plans into the Northwest Power & Conservation Council's Fish & Wildlife Program, BPA anticipates an increased demand for scarce funding. Full implementation of all subbasin plans across the region could cost more than double BPA's current fish and wildlife budget.

Historically, BPA funding in the Upper Columbia Ecoregion has been proportionally far lower than in other areas of the Columbia River basin. Under-funding in the Upper Columbia has persisted despite an abundance of scientifically-sound project proposals and a compounding demonstrated need for mitigation in this ecoregion. BPA has acknowledged the mitigation backlog in the upper Columbia, and requested that UCUT propose an equitable allocation method that would be mutually beneficial to both BPA and UCUT interests.

A subcommittee of UCUT members' fish and wildlife program managers reviewed several different historical funding allocation methods, including allocations: (a) prior to the 70-15-15 split[3]; (b) during the period the 70-15-15 split was applied; (c) during the first Provincial Rolling Review process; and, (d) during the 2003 budget reductions. Currently, funding allocations to each province are based on an historic arbitrary allocation mechanism, not on clear objective principles (such as biological basis, ESA or other statutory obligation).

UCUT proposes an allocation based on a reasonable pace of implementation of science-based measures in subbasin plans. This proposed allocation is rooted in BPA's FCRPS mitigation obligation and targets specific performance-based biological outcomes. Acknowledging the direct correlation between reliable adequate funding and achievement of biological performance, UCUT proposes a long-term commitment of an equitable portion of funding.

UCUT's proposal builds on lessons learned in previous processes, and is grounded in the region's need for an equitable and justifiable rationale for future allocations. UCUT requests that its recommended allocation method be incorporated into a long-term funding agreement for the Upper Columbia Ecoregion.

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[1] This proposal is for UCUT and its project-planning partners, and does not incorporate all parties to subbasin planning.

[2] Upper Columbia Ecoregion includes the InterMountain Province and the Kootenai and Okanogan subbasins.

[3] 70% of F&W budget to anadromous fish projects, 15% to resident fish, 15% to wildlife.

1. Anticipated Performance-Based Biological Outcomes

With this recommended allocation approach, measures submitted to the NWPCC for adoption as amendments to the NWPCC's 2000 Program can be implemented at a reasonable pace of implementation. *Any reduction in overall funding will increase the timeframe required to substantially meet these objectives.* Allocation of BPA's FCRPS PM&E funding ***in a ten-year agreement at this funding level and rate of implementation*** will support UCUT's accomplishment of the following biological outcomes:

a) *Wildlife Mitigation Outcomes:*

1) Achieve full mitigation for all construction and inundation habitat unit (HU) losses identified in the [xxxx] loss assessments, i.e.: 28,000 HU's for Albeni Falls Dam; 12,000 HU's for Chief Joseph Dam; and, 40,000 HU's for Grand Coulee Dam.

a. Spokane and Upper Columbia Subbasins -
6,260 habitat units

2) Enhance and maintain xxx acres of habitat protected with BPA mitigation funding (xxx acres previously protected and xxx additional acres protected with newly allocated funding).

a. Spokane and Upper Columbia Subbasins -
3,177 acres of habitat already acquired, as well as approximately 7,500 acres to be acquired with funding provided in the ten-year agreement (total 10,677 acres).

3) Protect, enhance and maintain approximately 5-10 miles of riparian habitat on the Spokane Indian Reservation.

4) Improve water quality and quantity to McCoy Lake on the Spokane Indian Reservation by improving riparian and upland conditions.

5) Monitor and evaluate the wildlife population response to habitat enhancement activities.

6) Re-introduce Sharp-tailed grouse population to the Spokane Indian Reservation, by:

a. Increasing the northeast range of Sharp-tailed grouse in the Intermountain Province.

b. Protecting, enhancing and maintaining grassland/shrub-steppe habitats.

b) Resident Fish Substitution Outcomes:

1) Pend Oreille Subbasin -

a. Assess 250 kilometers of tributaries and 300 surface acres of lakes.

b. Enhance or restore 30 kilometers of tributaries and 100 surface acres of lakes to benefit local native and non-native game fish for subsistence and sport fishing opportunities.

c. Operate and maintain a low capital largemouth bass hatchery for subsistence purposes. Produce 900,000 largemouth bass fry and fingerlings to increase harvestable bass to 12 lbs./acre in the mainstem of the Pend Oreille River.

d. Contruct and place artificial cover structures in the mainstem Pend Oreille River to increase the amount of largemouth bass fry winter cover.

e. Complete feasibility study of conservation aquaculture facility for bull and/or westslope cutthroat trout. Based upon feasibility study, construct, operate and maintain conservation aquaculture facility.

f. remove 30,000 non-native brook trout from 50 kilometers of tributaries for the purpose of enhancing bull trout and westslope cutthroat trout populations.

g. Monitor and evaluate 40 kilometers of tributaries that have already been enhanced or restored.

2) Spokane Subbasin -

Acquire 500 acres of habitat per year to foster robust native populations of fish and wildlife to provide subsistence harvest opportunities **as substitution for anadromous fish resource losses.**

3) Coeur d'Alene Subbasin -

a. Acquire 300 acres of habitat per year to foster robust native populations of fish and wildlife to provide subsistence harvest opportunities **as substitution for anadromous fish resource losses.**

b. Increase natural production of westslope cutthroat trout in Coeur d'Alene Tribe managed waters as shown in the Table below:

Biological Objectives for Coeur d'Alene Reservation Tributaries in the Coeur d'Alene Subbasin

Tributary	Target Level[a]	Escapement Target[c]	Harvest Target[d]	Biological Objective[b]	Year
Alder Creek	25	TBD	TBD	2,628	2015
	50	TBD	TBD	5,256	2025
	75	TBD	TBD	7,882	2035
	100	TBD	TBD	10,510	Beyond
Benewah Creek	25	TBD	TBD	3,353	2015
	50	TBD	TBD	6,704	2025
	75	TBD	TBD	10,053	2035
	100	TBD	TBD	13,405	Beyond
Evans Creek	25	TBD	TBD	1,514	2015
	50	TBD	TBD	3,028	2025
	75	TBD	TBD	4,540	2035
	100	TBD	TBD	6,054	Beyond
Lake Creek	25	TBD	TBD	3,080	2015
	50	TBD	TBD	6,160	2025
	75	TBD	TBD	9,240	2035
	100	TBD	TBD	12,320	Beyond

[a] Target level is defined as the percent of estimated historic abundance levels based on the productivity of undisturbed habitats.

[b] Biological objective is the sum of escapement and harvest targets. The 100 percent target level is defined as the number of adult fish needed to fully seed the available spawning habitat, given the following assumptions:

- Spawning is primarily restricted to 2nd order tributaries (CDA Tribe population data, 1994-2003);
- Usable spawning habitat comprises 4.1% of the total stream area in 2nd order tributaries, when averaged across the four target watersheds (CDA Tribe habitat assessment data, 1998);
- Potential spawning gravel was defined as patches of substrate at least 0.25 m^2 in area with particles 2-35 mm in diameter and average redd size is 0.15m^2 (Magee et al. 1996).
- 1:1.6 male to female spawner ratio (IDFG 1998);
- 3 redds for every 2 spawning females (Scott and Crossman 1973);

[c] Escapement targets will be calculated as the minimum number of spawning adults needed to ensure a probability of persistence greater than 99% over 100 years (Dennis et al 1991).

[d] Harvest targets will be established as part of the ongoing process to refine program measures.

4) Upper Columbia Subbasin -

...

...

c) Anadromous Fish Outcomes:

1) Kootenai Subbasin -
   a. White sturgeon ESA ....
   b. ...

2) Okanogan Subbasin -

a.

2. The 70/15/15 Expense Budget Split:

The NWPCC-recommended 70-15-15 expense funding split should be retained as a regional benchmark for funding equitability. Seventy percent of the total budget to anadromous fish and 15% each to resident fish and wildlife is a reasonable approach to allocating funding based on basin-wide needs and specific needs identified for the Upper Columbia. The 70-15-15 approach has been endorsed by the region's fish and wildlife managers and is currently in the NWPCC's 2000 Columbia Basin Fish and Wildlife Program.

3. Capital Project Funding:

Capital funding should be made available for projects that meet capital funding criteria on a needs basis. If total capital investment capacity is inadequate to meet all regional need, allocation criteria should be used to prioritize capital investments.

4. Provincial/Subbasin Allocation *Criteria*:

Although the 70-15-15 allocation represents a region-wide overlay, the NWPCC's 2000 Program is based on management plans for 11 geographic provinces and 62 subbasins. Mitigation over these geographic units should be prioritized using the following criteria:

a. Best science - have projects continually received appropriate scientific review and approval?
b. Historical success - have past project goals been met? with economic efficiency?
c. Long-term benefits - do projects provide long-term benefits to fish and wildlife?
d. Mitigation obligation– do projects move toward fulfilling BPA's mitigation obligation?
e. Equitable apportionment of mitigation efforts - do projects focus effort in historically under-mitigated areas?
f. Proportionality - has BPA provided mitigation benefits to fish and wildlife in proportion to the relative impacts and benefits (power, irrigation, flood control) derived from operation of each facility in the hydropower system?
g. Mitigation for lost anadromous fisheries - do projects mitigate for anadromous fish lost to blockage by federal hydropower facilities?

5. Provincial/Subbasin Allocation *Method*:

a. Regional 70-15-15 Split – This standard needs to be maintained.

b. Provincial/subbasin base level & adjustments – Each province/subbasin will receive an equal amount of base funding. The base level will be adjusted on an assessment of need identified by subbasin plans/BPA obligation.

c. Adjustments to equal base levels will be based on clearly-articulated criteria, including criteria described above in Section 2 of this proposal.

d. A provincial review committee will prioritize projects and make recommendations for funding, considering the budget allocation, consistency with subbasin plans, and the recommendations of the ISRP. As an example, UCUT would serve as the review committee for the allocation to the Upper Columbia Ecoregion.

e. No single provincial allocation mechanism can be based purely on objective principles. Some subjective reasoning will be used to complete the final apportionment. For UCUT, BPA will factor into this reasoning it's government-to-government relationship and trust responsibilities to Tribes.

6. EXAMPLE: Allocation Method Applied to UCUT Funding for Upper Columbia Ecoregion:

NOTE: These calculations are based on BPA's current FY2005 budget cap and would be adjusted with changes to BPA's total fish and wildlife funding.

INTERMOUNTAIN PROVINCE

Base **expense** funding		6/62nd[4] of $127[5]m		$12,290,000
Adjustments to base:				
40% impact to wildlife and salmon		6/62nd of 15% RF and 15% W @ $1.8445 m ea.		$ 3,687,000
JCCA hydro-allocation[6] above 70%		10% (6/62nd) of 70% of 15% RF and 15% W ($38.1 m)		$ 2,667,000
Subtotal Expense Allocation				$18,644,000
Capital Adjustments				
>35% regional benefits (flows & power)		add 25% of capital (avg. annual)		$ 9,000,000
Total Capital and Expense Funding Allocation				$27,644,000
Compare to Maximum Historic Expense Allocation				***$11,000,000***

KOOTENAI SUBBASIN

Base **expense** funding		1/62nd of $127m		$ 2,048,000
Adjustments to base:				
ESA Compliance		1/24th of non-salmon ESA subbasins of 30% ($38.1 m)		$ 1,587,500
JCCA hydro-allocation above 70%		5% (1/24th) of 70% of 15% RF and 15% W ($38.1 m)		$ 1,333,500
Subtotal Expense Allocation				$ 4,969,000
Capital Adjustments				
downstream benefits (flows & power)		Average annual capital		$ 2,000,000
Total Capital and Expense Funding Allocation				$ 6,969,000
Compare to Maximum Historic Expense Allocation				***$ 3,000,000***

[4] 6 of the 62 subbasins are in the InterMountain Province.

[5] BPA's current expense budget cap of $139m less BPA overhead = $127m expense funding available to projects.

[6] JCCA allocation of hydropower's share of a facility is used as an indicator of proportionality.

OKANOGAN SUBBASIN

Base **expense** funding		1/62nd of $127 m		$ 2,048,000
Adjustments to base:				
ESA Compliance		1/38th of salmon ESA subbasins of 70% ($88.9 m) x 1.5 for endangered stocks in SB		$ 3,510,000
Subtotal Expense Allocation				$ 5,558,000
Capital Adjustments				
Hatchery and ESA needs		Average annual capital		$ 2,500,000
Total Capital & Expense Funding Allocation				$ 8,058,000
Compare to Maximum Historic Expense Allocation				***$ 1,600,000***

Summary of UCUT Allocation for Intermountain Province, Kootenai, and Okanogan:

Expense	$29,171,000
Capital	$13,500,000
Total Allocation	$43,958,500

This equates to:
22.9% of total expense funding, or
61.9% of 15% + 15% and 6.3% of 70%,
and 37.5% of capital funding,
assuming BPA's current budget

7. Justification for Allocation Method:

The Upper Columbia Ecoregion (IMP + Kootenai SB + Okanogan SB) has experienced some of the basin's most profound losses due to the construction and operation of the federal Columbia River hydropower system.

a. Percent of total impact -

According to loss assessments currently adopted into the NWPCC's Fish and Wildlife Program, anadromous fish losses in this ecoregion rank number one in the Basin at 37%, as do wildlife losses at 37%.

b. Percentage of benefit derived from federal hydropower facilities -

Compounding this imbalance is the fact that nearly 50% of the hydropower generation and the majority of downstream flow and irrigation benefits come from the Upper Columbia, an area with hydropower allocation percentages (JCCA) ranking number one in the Columbia River Basin. (Hydropower allocations: Grand Coulee 77%;

Chief Joseph 100%; Albeni Falls 97%. See attached table of hydropower allocations for comparison of all Columbia River federal hydropower facilities.)

c. Percent of historic and current mitigation spending -

Since the inception of the NWPA in 1980, funding to the region for mitigation has ranked near the bottom at less than 7.7% annual average of BPA's F&W expense funding since 1980.

d. Remaining unmitigated wildlife habitat units -

Most lower Columbia River hydropower projects are at or over HU mitigation, while others remain under-mitigated. Three under-mitigated facilities in the system (Grand Coulee, Chief Joseph, and Albeni Falls) directly affect the Upper Columbia Ecoregion.

e. Unmet need based on historical and current funding -

Funding for UCUT members' projects in the Upper Columbia Ecoregion has averaged less than $15 million from 2001-2003. Funding need identified through subbasin planning averages approximately $53 million annually for five years.

8. The UCUT Allocation Request

The UCUT member Tribes are requesting that Bonneville Power Administration, our trustee, fund reasonable and equitable mitigation within the upper Columbia region by providing $29.2 million annually in expense funding and $13.5 million annually in capital funding to the UCUT tribes over a ten year period, from 2006 to 2016. These funds will be used for the express purpose of funding BPA's hydropower mitigation responsibilities within the upper Columbia ecoregion, consistent with the recently completed subbasin plans, the 1980 NWPA, and BPA's hydropower mitigation obligations to these tribes.

The requested level of funding is less than 23% of BPA's entire current Fish and Wildlife expense budget and about 37.5% of the capital budget[7]. This level of funding is both reasonable and defensible. These funds will be spent consistent with NPCC-adopted subbasin plans and all associated levels of accountability, including ISRP reviews. This will assure that each project is providing biological benefits and accomplishments toward meeting BPA's mitigation obligations.

UCUT encourages BPA to pursue the continued development of ranking criteria, to be applied as an equitable funding mechanism for the remaining subbasins and provinces within the Columbia River Basin.

[7] At BPA's 2003-2006 budget levels of average $127 million expense ($139 million less $12 million BPA overhead), and $36 million capital.

9. Other Issues:

This allocation method would fund needs in the Upper Columbia Ecoregion at levels less than supported by subbasin plans. It does not incorporate all of the other fish and wildlife managers' needs based on subbasin plans.

Program support and coordination funding are not addressed under this province/subbasin allocation process.

This method for allocation beginning in FY2006 does not resolve issues arising during the current funding cycle. Among unresolved issues: How will unspent funds from previous years – the difference between what was "booked" and what was "paid" to contractors – be made available for FY05 and '06 budgets? (For example, although $28 million was booked as accruals at the end of FY 03, only $22 million was paid for via invoices received[8]. This left $6 million unaccounted for, which should be and available for Fish and Wildlife Mitigation funding in subsequent years.)

[8] BPA F&W Program FY 2003 Accruals, and Invoices for FY 2003 Received in FY 2004 – released by BPA on 3/22/04

Illustration of UCUT Upper Columbia Ecoregion "Roll Up" Summary Table
Biological Objectives, Strategies/Actions, and Estimated Costs

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
IMP												
Wildlife - C&I @ 1:1 Albeni Falls Grand Coulee Chief Joseph Sharp-tailed Grouse (STG) Restoration	**HU's** 18,000 40,000 12,000 Re-Introduce STG to the Spokane Indian Reservation Establish at least a min. of 20 breeding females	• O&M • Habitat Protection • Habitat Enhancement • Monitoring & Evaluation • Monitor & Evaluate STG Productivity	$12.5	$12.5	$12.5	$12.5	$12.5	$12.5	$12.5	$12.5	$12.5	$12.5
Resident Fish Substitution Native Trout Populations & Habitat	Assess 300 miles of tributary habitat Protect 40 miles	• Artificial Production • Fish Habitat Protection • Habitat	$15.15	$15.15	$15.15	$15.15	$15.15	$15.15	$15.15	$15.15	$15.15	$15.15

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	of tributary habitat Enhance/Restore 38 miles of in-stream tributary habitat Enhance at least 300 miles of riparian habitat Introduce beaver into tributary habitats Remove exotic species from 75 miles of tributaries Monitor/evaluate 50 miles of tributary enhancements Feasibility of conservation and production	Restoration/ enhancement • Water rights • Predator Management • Monitoring and Evaluation										

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	aquiculture facilities (e.g., cutthroat/bull trout, burbot, white sturgeon) Provide for harvest opportunities (e.g., put and take fisheries) Produce at least 20,000 white sturgeon and 500,000 redband rainbow trout Monitor fish populations and habitat Assess 848 miles of tributaries for genetic distribution of redband trout Address habitat											

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	accessibility in at least 1,500 miles of tributaries Monitor limiting factors Develop in-stream flow requirements for tributaries Monitor and evaluate water quality and habitat parameters											
Non-native subsistence and sport fisheries	Produce 900,000 Large Mouth Bass Produce up to 60,000,000 kokanee fry and/or 10,000,000	• Artifical Production • Habitat Enhancement • Provide cover • Monitor and Evaluate										

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	kokanee fingerlings and, 5,000,000 rainbow trout and Enhance in-river cover for LMB with artificial habitat Provide for harvest opportunities (e.g., put and take fisheries) Monitor and evaluate harvest and hatchery success Monitor limiting factors											
Reintroduce Anadromous Fishery	Feasibility of restoring passage and populations to upper	• Artifical Production • Habitat Enhancement										

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Columbia River Blocked Area	• Provide passage • Monitor and Evaluate										
Okanogan **ESA** Anadromous	Assess and address limiting factors Address in-stream flow Assess habitat conditions Enhance/restore spawning habitat Restore access to tributaries Increase production of listed and non-listed	• Artifical Production • Habitat Enhancement • Monitor and Evaluate	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	anadromous stocks for returning adults: 4,000 pairs of sockeye, 550 pairs of summer chinook, 970 pair of summer steelhead, and 1,220 pairs of spring chinook Annually produce and release 2,000,000 summer chinook smolts											
Kootenai **ESA** White Sturgeon	Produce and release at least 100,000 juvenile white sturgeon - dependant upon	• Artificial Production • Habitat Enhancement • Monitor and	$7.0	$7.0	$7.0	$7.0	$7.0	$7.0	$7.0	$7.0	$7.0	$7.0

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	egg take Enhance and restore 30% of white sturgeon spawning habitat Monitor and evaluate population and habitat conditions for white sturgeon Applied research, monitoring and evaluation to adaptively manage white sturgeon recovery Achieve natural recruitment in at least three historic spawning areas	Evaluate										

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Burbot	Achieve a minimum of 2,500 spawning adults in the burbot population Applied research, monitoring and evaluation to adaptively manage burbot recovery	• Artificial Production • Habitat Enhancement • Monitor and Evaluate										
Ecosystem	Restore, enhance and maintain at a rate of 5% of the known impacted acres of floodplain wetlands Restore, enhance and maintain at a rate of 15% of the known	• O&M • Habitat Protection • Habitat Enhancement • Monitoring & Evaluation										

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	impacted riparian acres of floodplain tributaries Restore, enhance and maintain at a rate of 15% of the known impacted riparian acres of Kootenai River floodplain habitat Complete and implement operational impact loss assessment for Libby Dam Nutrient restoration to historic levels in Kootenai River and south arm of Kootenai Lake											

Fish & Wildlife Focus	Biological/ Environmental Objective	Strategy	Estimated Cost in Millions									
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Increase total abundance of native salmonids by 20% Develop an upward trend of kokanee spawning escapement											